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ORIGINAL COMMUNICATIONS.

ART. I.—*Puerperal Fever.* By H. G. LANDIS, A.M., M.D., of Niles, Ohio.

The objections to the term "puerperal fever" are much more weighty than those, for instance, against "cholera." If it were a mere misnomer of an individual disease, there would scarcely be an objection sufficiently strong to overcome the weight of long usage. But under cover of this name utterly incongruous diseases have always been treated of, and are yet, to a great extent. So firm a hold has it obtained that men of unquestioned ability have almost invariably attempted to square facts with the name, rather than describe the manifold pathological conditions which, anaconda-like, it has embraced, under their proper headings. This statement is fully borne out by a study of the progress of opinion since the term was first used. Witness the tabular statement of Churchill,* from Hippocrates down, and the admirable historical sketch by Winckel.† From a comparatively early date the term has been combatted. Robert Lee‡ objected to it, and desired to place in its stead "inflammation of the uterus and appendages." Churchill tells us

* System of Midwifery. Second American edition, page 540–1.

† On Child-bed. American edition, page 312, *et seq.*

‡ Churchill. Op. cit., page 540.

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that at first he adopted Lee's views, but finally abandoned them. Why? Lee's experience had been such that local inflammations were always associated with febrile disturbance after parturition—as had apparently been that of Churchill also; but later he finds fever without apparent lesion, and throwing overboard Lee's and his own former experience, finds it to be a specific malignant fever. Going further, and finding by wider comparison that nearly every observer has held different views, he comes to the final and illustrious conclusion that the "type of the disease varies in different epidemics;" which is as though a physician, accustomed to calling all the exanthemata by the name "skin fever," should, after repeated combats with scarlet fever, measles, *et id genus omne*, come to the conclusion that the type of "skin fever" varied in different epidemics. This peaceful termination of the dispute in Churchill's mind has been handed down to the profession as a rich legacy. There is no longer any need for each physician to insist on puerperal fever being a particular inflammation or specific disease; he would now be warranted in describing his own special epidemic of the fever, which has been done as late as January, 1875, by Dr. Jno. S. Parry, who, in the American Journal of the Medical Sciences, describes "a peculiar form of puerperal fever." Dr. Parry was a physician of singular erudition, and an authority in matters obstetrical at an age when few men have more than begun to work. As late as October, 1876, Dr. R. P. Harris, in reviewing the Transactions of the Obstetrical Society of London, while stickling for the term "puerperal fever," pens the following sentence: "Three physicians of this city once examined a case of erysipelas after death, and were all called in the following night to cases of labor. The three women all took child-bed fever and died."

To return for a moment to Churchill:* "The late Dr.

* Op. cit., page 543.

Labatt mentioned to me that he had known a patient laboring under typhus fever, and brought into the lying-in hospital, originate puerperal fever in the same ward in women who had recently been confined." Now, would any physician be believed who would state as follows: "Three physicians once examined a case of small-pox after death, and were all called in a few hours to see children who had cut their fingers with new knives. In the course of the week all the children so attended were attacked with scarlet fever." "*Credat judæus apelles, non ego.*" Would any reputable practitioner reason thus if he were not chained by the name and its inherent theory? We may note, also, that the confusion complained of is neither imaginary nor out of date, but a living evil which has withstood such attacks as the following: Meadows,* in speaking of the term says, after many things which should be written in letters of gold, "I believe that we should have much clearer and truer views of the pathology of the puerperal state if we could discard altogether a specific title which has long since ceased to have any sound scientific meaning; it is, in fact, a term which is used to cover a variety of meanings, and is, unfortunately, not only powerless for good, but all-powerful for evil, inasmuch as it is apt to divert men's minds from truth and to satisfy them with the husk of falsehood." Now, it really makes no difference that there has at last been isolated a distinct disease, more or less identical with septicæmia, which fills the role of a puerperal fever. So long as the term is used the labors of Semmelweiss and Winckel will be unavailing. Their names can only be added to the long list which begins with Hippocrates, as advocates of still another variation in type of this remarkable fever, for they have, to a great extent, disregarded the observations of their predecessors, and their conclusions contain, by implication, the

* Manual, page 445.

reflection that such observers as Sydenham, Denham, Bichat, Collins, and hosts of others, were entirely mistaken, when the truth is that they only included in the term various inflammatory or febrile affections. Thus Schroeder, taking no notice whatever of the fact that different diseases have been called by this name, defines* it dogmatically as including "all those diseases of puerperal women which are caused by the absorption of septic matter." And further, these are the accepted conclusions, as yet, only of the German schools. England gives her assent slowly, and the recent pitched battle in the London Obstetrical Society seems to have left the matter where it was before. In this country there are no systematic writers to advocate it at all. No less a person than Tanner,† who specifically claims to have some acquaintance with Winckel's writings, retains the name and divides the disease into four forms. His first variety appears to be simple peritonitis; the other three are so incompletely detailed as to be unrecognizable as distinct diseases. Leishmann‡ speaks of it as a distinct zymotic fever, originating in a special poison. Is he speaking of the same disease that Tanner is? Fordyce Barker§ also believes that it is an essential fever; but surely he, too, must occupy a different stand-point. It is needless to more than mention these well-known differences. When the two knights in the fable discovered that they had to do with a *double* shield, all the differences which had grown out of their belief in the object being a shield only, vanished. And thereby hangs a moral. In the existing state of medical education it is evidently impossible for all physicians to be thoroughly versed in the literature of any branch of the profession. There will, therefore, always be a large percentage of practitioners

* Manual, page 329.

† Hand-book, page 198.

‡ System. First American edition, page 654.

§ American Journal of Medical Sciences, April, 1874.

of average capability and attainments who will be forced to adopt, for the first years of their practice, a more or less routine system, based on dogmatic assertions in manuals and hand-books. To them a name stands for a definite idea, a disease is looked upon as a well-defined entity, and the mere mention of a disease is accompanied by the mental outline of a particular line of treatment; such a disease is to be treated in such a manner and with such remedies. Shall they continue to treat alike peritonitis, septicæmia, and all the diseases which may coincidently befall a woman in childbed? Is it not merely because veterans and teachers are too indolent to change a name which to them, indeed, has lost its original meaning, but which clings with the tenacity of bad habits generally? Words may be as deadly as things. Truly this word has slain its thousands.

ART. II.—*Remarks on Colles's Fracture.* By FRANK HASTINGS HAMILTON, M.D., of New York. Made at a Meeting of the Yonkers Medical Society. Reported by F. S. Grant, M.D., Secretary of the Society.

At a stated meeting of the Yonkers Medical Association, held in Yonkers, November 3, 1876, Dr. Frank H. Hamilton made the following remarks on Colles's fracture:

Our knowledge of Colles's Fracture is comparatively recent. In the first part of the present century Mr. Colles, the eminent Dublin surgeon, was the first to give a comprehensive description of the fracture which took his name. He did not, however, describe it altogether accurately; he erred in stating that the fracture always occurred two inches above the wrist joint, and it was reserved for later surgeons to prove that in Colles's fracture the break rarely exceeded from one-half to three-fourths of an inch above the articulations. At first it was supposed to be a simple transverse fracture.

Dr. Hamilton then first spoke of what he called the *classi-*

cal Colles's fracture, which was from one-half to three-fourths of an inch above the articulation, and nearly transverse. It occurs from slight falls, as the weight of the body, the hand being expanded and open, receiving the force of the fall. It is sometimes called "back-door fracture," "silver-fork fracture," a rather fanciful and *Fifth avenue* name, the doctor thought. The classical fracture is very common during the winter, a slip on the side-walk being often the cause. It is rare in childhood.

The lower fragment is tilted backward, but not entirely displaced or impacted; indeed, not ordinarily impacted. This is the common form, and is reduced by *pushing it back*, which, as a rule, is easily done.

Second. A fracture where there was distinct impaction, as well as a tilting backward, the main shaft being driven into the cancellated tissue, and the patient having fallen from a height.

Third. What Dr. Van Buren calls a classical fracture, viz., a transverse fracture, with comminution of the lower fragment. Dr. Hamilton thought all such fractures were caused by falls from a height; and, therefore, could not be classical; for in the great majority of cases classical fracture is a simple transverse break from a fall on the side-walk.

Fourth. Dr. E. M. Moore, of Rochester, says that in addition to transverse fracture, there is a rupture of the triangular fibro-cartilage and internal lateral ligament, and a dislocation of the ulna. Dr. Hamilton said that if this does happen it was only an occasional form.

Fifth. A form of fracture which was called Barton's, described by Dr. Barton, of Philadelphia, before he had seen Colles's fracture, described as a fracture of the lower end of the radius, with the posterior and lower margin *chipped off*. Such a fracture Dr. Hamilton thought possible; but it could not be distinguished from Colles's, and would be considered as such now-a-days.

Treatment.—1st. The classical fracture. The easiest to reduce of all fractures, accomplished either by the band alone, or assisted by laying across the knee. If not thus reduced, you may depend it is not classical. When once put in position it is easily retained. Very often this fracture will fall back itself by the mere weight of the flexed hand.

2d. The impacted form. In the great majority of cases easy to reduce. A little more force is required with extension, and Dr. Hamilton thought that the error in treating a Colles fracture was often from not using *force* enough; bring forward until it seems bent, if any thing, a little in the opposite direction. If this plan were always carried out fewer cases of deformity would result.

3d. The comminuted. Not always easily recognized. There is sensible deformity. The treatment differs in nowise from that of the impacted.

4th. Moore's fracture. Dr. Moore, after stating "that all difficulty in treatment disappears when the luxation is restored," gives the following method for reduction: 1st, extend; 2d, incline hand to radial side; 3d, push the head backward; 4th, keeping backward, while extending swing, well to ulna side, and *flex* the hand. Dr. Moore furthermore states that the diagnosis of luxation is made out by the relation of the head of the ulna to the tendon of the extensor carpi ulnaris. The manouver mentioned restores the head of the ulna, with the tendon in its normal position.

Dr. Hamilton then said that in regard to *all* of the forms which he had mentioned, when once reduced they should be kept in place by the simplest means. As to the expedient of *forced avduction*, which was often spoken of, but not really used, Dr. Hamilton thought should never be practiced as a means of treatment; it was not only useless, but actually painful, even in the normal wrist. The pistol-shaped splints, which seemed to have this idea in view, only threw up the radius a little better in view. He does not use them himself.

Dr. Hamilton now proceeded to state to the Society, and to illustrate to them, what he considered the essential points of a splint for Colles's Fracture.

First, you want a comfortable splint, for you must remember that here you have an articulation surrounded by tendons, two arteries, and three nerves, so that any undue pressure brought to bear here might and has proved dangerous.

After exhibiting a number of splints, among others *Day's splint*, which he said was not likely to fit, was uncomfortable and likely to cause ulceration. *Martin's splint*, which does not fit either, and is expensive. The doctor illustrated his own method, as follows: Take a flat piece of board, shave off upper edge to conform to the slight bend of the hand, lay cotton batting on one surface and cover with cloth. If it does not adjust itself to the contour of the wrist and palmar surface, punch a hole in the pad with the blade of a knife, and push away the batting so as to have a space over the lower fragment. The pad must rest only on the *upper* fragment. You have now a perfectly fitting, safe, and comfortable splint. Placing it in position, on the anterior surface, you proceed to apply the roller bandage smoothly and firmly, which pushes the lower fragment into position and maintains it there. More than this, the open space on the splint preserves from pressure the ulnar and radial arteries and the median nerve. Gangrene is prevented, which is not infrequent in the treatment of this fracture.

Dr. Hamilton very rarely uses a dorsal splint, because it is not essential, unless the patient be unusually fractious.

Future Management.—At the end of ten or twelve days Dr. Hamilton advises the removal of the splint, and the employment of motion at the articulation. Union here takes place at an earlier period than any other fracture in the body, and it is more necessary, for there is a greater tendency at this site to anchylosis than elsewhere, so abundant are the synovial sheaths.

In conclusion, the doctor wished to call the attention of the Society to a deformity which sometimes occurred at the end of two months, and which does not remain at the end of a year. It was a swelling above and below the annular ligament, with a thickening of the ligament over the carpel bones.

This swelling is limited, and over the carpel bones is quite hard. The ulnar is always somewhat loosened by a yielding of the ligaments attaching the ulnar to the radius, and this you can not overcome.

ART. III.—*On the Pathology of Partial Cerebral Anæmia.* By JOHN C. PETERS, M.D., President of the Medical Society of the County of New York, and of the New York Neurological Society; Vice-President of the New York Public Health Association.

One or more arteries of the brain may be obstructed or obliterated, and anæmia of those parts supplied by it produced, through the action either of thrombosis or embolism.

Thrombosis, as is well known, arises from a coagulation of the blood within the vessels during life, owing either to changes in the walls of the vessel itself, or to impeded blood flow. The coagulation is called a thrombus.

Thrombosis of the arteries may be produced by inflammation, or atheroma, or simple loss of vitality of their walls, or by dilatation or fatty degeneration of the heart, and by alterations of the blood, either excess of fibrin, or certain other conditions of it, occurring in ill-nourished and cachectic persons.

Thrombosis of the cerebral veins and sinuses may be caused by inflammation of the dura mater, cranial bones, and pericranium, or by unknown changes in the quality of the blood.

Fatty and calcific degeneration may affect the walls of a group of capillaries to such a degree as to interfere with the

nutrition of portions of the brain and lead to anæmia of them.

Thrombosis in the cerebral capillaries may also arise from disease or loss of vitality of the endothelium; for, even in the normal state, all the external portions of the blood currents, as they flow, adhere to the walls of the capillaries almost without motion, so that this layer of blood is almost passive, while the cerebral column alone moves decidedly, drawing with it the globular elements of the blood, especially the red globules; while the white globules, which are extremely viscous, are easily caught and arrested in the passive layer, which always lies against the endothelium of the capillaries. Among the more or less well-defined causes influencing the coagulation of the blood, the least disputed, though the one most difficult to explain, is the influence of the inner coat of the living vessels. This influence was first pointed out by Brücke. Contact with the normal *living* coat is a powerful obstacle to coagulation; the fibrin can not become solid while the blood is circulating well and each of its particles comes constantly in contact with the living internal coat. As soon as this becomes enfeebled, or loses its vitality, the blood coagulates in the affected capillaries. [Küss.]

The act of coagulation depends upon a separation of fibrin from the blood. This is a complex process, for fibrin is not contained in the blood as such, but only formed in the act of coagulation. A. Schmidt has established the interesting fact that in the blood corpuscles is contained an albuminoid substance, called globulin, or fibrino-plastic substance, which enters into a firm union with a similar fibrinogenous substance contained in the serum, or liquor sanguinis, when the hindrances to coagulation are removed, or especially if the conditions facilitating coagulation are produced, as they are in disease or loss of vitality of the endothelium. It is the firm union of these two substances which we call fibrin.

Again, when by the process of chronic inflammation, or atheroma, the inner surface of an arterial wall becomes rough, it acts upon the blood contained in the vessel as an obstructing foreign body, and the loss of vitality of the endothelium allows coagulation. When they occur primarily, inflammatory processes, both in the arteries and veins, generally have their seat either in the external or middle coat, or, more rarely, in the deeper layers of the internal coat. They never commence on the real internal surface of the lining membrane of the vessels, which only becomes involved secondarily. The vitality of the inner vascular coat, or intima, becomes impaired as the result of inflammatory process, just as the walls of the chest and intestines become paralyzed by inflammation, and when this has occurred it acts as a strange or foreign body, and there is a tendency for the blood to coagulate upon its surface. In other and better known cases the lining membrane is completely destroyed, and the subjacent diseased tissues of the arteries come in contact with the circulating blood, and in the same way cause the formation of a coagulation, or thrombus. Such inflammatory changes occur in the arteries, constituting the condition known as atheroma, which, in the smaller vessels, may be a cause of thrombosis.

Atheroma is generally supposed to arise from inflammation of the walls of the arteries, commencing in the deeper layers of the inner coat. In the earliest stages the fibrous and elastic lamellæ of the inner arterial coat become infiltrated with young cells, which are partly emigrant and partly derived from the proliferation of the cells of these structures. As these young cells increase in number, they give rise to a swelling beneath the innermost layers of the internal coat of the artery. This swelling of the intima presents a very characteristic appearance; it is of a soft, flabby consistence in the earlier stages, and the lining membrane, which is continuous over it, can be readily stripped off, leaving the

diseased tissue beneath. It thus contrasts strongly with the superficial patches of fatty degeneration which result from the passive metamorphosis of the superficial epithelial and connective tissue cells of the arteries.

Dr. Francis Delafield also states that atheroma commences as an endarteritis, or chronic inflammation of the outer layer of the inner coat of the arteries, and is marked, at first, by small flattened elevations on the inner surface of the vessels, formed by a hyperplasia of the outer layers of the inner coat, where we find a considerable number of round, fusiform, and stellate cells, mixed with a basement substance which may be hard and fibrous, or soft and mucous.

When the lesion has reached this stage, it goes on to fatty or calcific degeneration. Fatty degeneration attacks both the new cells and basement substance, converting them into a dense, yellow, cheesy mass, or into a semi-fluid, yellow puriform substance. Instead of cells and basement substance, we now find fatty and broken cells, granules, and cholesterine. This is the condition generally called atheroma. The softening process advances towards the inner surface of the intima which covers the atheromatous patch, while a small perforation is formed, and finally ulceration of the internal coat ensues. On the roughened surface thus produced, the fibrin of the blood is often deposited, causing obstruction of the artery and anæmia of that part of the brain which it supplies with blood. All the stages of simple hyperplasia, fatty and calcific degeneration, are often met with in the same vessel.

It seems strange that inflammation of the free surface of the internal coat of the arteries should not occur as often as it frequently does in the corresponding tissue of the endocardium. In fact, Bizot has described an acute inflammation of the arteries, in which an albuminous exudation of greater or less thickness, of the consistency of jelly, transparent, smooth, and sometimes rose-colored, at others colorless, covers

the lining membrane. It is occasionally so transparent as to escape attention. It occurs in patches, solitary or numerous, and diminishes the caliber of the vessel. Bizot saw it entirely plugging up the anterior tibial artery, and saw this exudation formed at the orifices of the arteries arising from the arch of the aorta, and at the mouths of the cœliac, mesenteric, and renal arteries, and also blocking up the mouths of the intercostals. As late as 1873, MM. Cornil and Ranvier described endarteritis in nearly similar terms, and exudations in great part composed of round embryonic cells from the proliferation of the normal elements of the internal coats, which was most active near the surface. They insist that this is peculiar to acute, genuine endarteritis, and distinguishes it from chronic atheromatous endarteritis, where the same changes go on in the deep layer of the internal coat.

Amyloid degeneration of the arteries is of common occurrence. The inner coat and muscular layer then become infiltrated with a translucent material looking like wax. In extreme cases the outer coat is infiltrated in the same way. The walls of the arteries appear thickened, stiff, and of a peculiar waxy color, and may be stained mahogany red by the addition of a weak solution of iodine. The lumen of the affected vessel is diminished in size, and anæmia of the part is produced.

The symptoms of partial cerebral anæmia are: Headache, generally near the situation of the obstructed artery, and more remarkable for its persistency than severity; speech is apt to be involved, not only as regards the articulation, but the memory of words, somewhat resembling aphasia; vertigo is common; the signs of paralysis soon make their appearance, both as regards mobility and sensibility; the memory is apt to be impaired, especially about recent events. Recovery may take place when the collateral circulation is established about the region supplied by the ob-

structed artery, but more frequently circumscribed softening of the brain occurs, with its usual symptoms.

If atheroma always arose from simple inflammation of the walls of the arteries, it might be possible to treat it with arterial sedatives like aconite, digitalis, colchicum, etc.; but as it most frequently occurs in old age, it is, at times at least, a degenerative change, for which the phosphates may be useful. When of syphilitic origin in younger persons, corrosive sublimate, in bark, or iodide of potash may be thought of; when arising from intemperance and chronic alcoholism, the alkalies are useful.

ART. IV.—*On Reflex Irritations Throughout the Genito-Urinary Tract, resulting from Contraction of the Urethra at or near the Meatus Urinarius, Congenital or Acquired.* By FESSENDEN N. OTIS, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York. Read before the New York Academy of Medicine.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY: The influence of the irritation of peripheral nerves in producing centric disturbance in the spinal cord, which may thence be transmitted to distant parts of the animal economy (first claimed by Dr. Marshall Hall more than twenty years ago), has found corroboration in the testimony of every medical scientist since his time; and besides, so much clinical proof has been accumulated by the medical profession at large in support of this proposition that it is no longer a matter for discussion. Morbid reflex disturbances are now accepted as occupying an important place in the recital of human suffering.

Varied and grave disturbances, influencing the entire nervous system, are often ascertained to be dependent upon as apparently significant a cause as a decayed tooth, an indigestion, a simple erosion upon the cervix uteri, ceasing at once on the cessation of the cause. Dr. D. Campbell Black, of Glasgow, in his very interesting and valuable work on the

renal and urinary organs, cites cases of retention of urine from reflex irritation, the result of an operation for hœmorrhoids. Trousseau has recorded cases of incontinence of urine dependent solely upon the irritation caused by a preputial contraction. Dr. Sigismund Waterman, of New York, has shown me a case of this sort which was promptly relieved by division of the prepuce. I have seen other similar cases, and also one marked case of *retention* of urine in an infant nine months old, which, after lasting four days, was completely relieved within one hour by slitting up the prepuce. Seminal emissions are well known to occur as a result of phymosis, relief occurring promptly on ablation of the prepuce.

Dittel relates a case where a man twenty-six years of age had a slight phymosis, and was the subject of incomplete erections, nocturnal emissions, frequent desire to urinate, and also of many hypochondriac symptoms, all of which were promptly and completely cured by removal of the prepuce.

A similar case is related by Pitha. Sweigger-Seidel cites a case where the simple introduction of a catheter caused complete syncope, and yet no urethral disease was present. I have the record of a similar case where complete unconsciousness instantly followed the introduction of a bulbous sound through the meatus urinarius. Every surgeon of much experience has recognized the tendency to syncope in a considerable proportion of nervous patients, on the first introduction of instruments through the meatus.

Spasm of the bladder is noted by Dr. D. C. Black as occurring from sympathetic irritation, and to such a degree that complete closure of the *urethral* orifices results, producing retention of urine in the ureters and pelves of the kidney. Such a case I believe I have seen, resulting in death from uræmia, and caused by the rude introduction, by the patient, of a catheter, through a narrow stricture at the posterior

border of the fossa navicularis. Forcible and painful contraction of the bladder followed immediately, with complete suppression of urine. The patient died uræmic twenty-four hours after. The bladder was found empty (with the exception of a few drams of grumous blood and mucous), closely contracted and free from disease. The ureters were normal, the kidneys highly engorged with blood, but presenting no evidence of disease. The case was accepted as one of *acute suppression* at the time. The ureters are known to contract vigorously under the influence of the galvanic current. The above case,* it now seems to me, was one of spasm of the ureters and bladder, reflected from the irritation of the end of the penis.

A few days since Dr. Brown-Sequard related to me the following case:

"While in London, during the past year, a gentleman was brought to me who presented all the rational signs of advanced cerebral *ramollissement*. I had looked upon the case as quite a hopeless one, until noticing that the patient frequently applied his hand, in an absent sort of way, to his genital apparatus. Permission being accorded, examination of the parts revealed an aggravated inflammatory phymosis, complicated with acute balanitis. On making this discovery," said Dr. Brown-Sequard, "I expressed to the medical gentleman accompanying and in charge of the patient my belief of the possibility that the *apparent* ramollissement might be due to reflex irritation, caused by the evidently chronic and severe irritation of the glans penis. I advised complete division or ablation of the prepuce, and treatment of the balanitis, as the best and only hope for the patient's recovery from the brain trouble from which he was suffering."

The operation was performed, and the effect upon the men-

* Reported to the New York Pathological Society, March, 1872.

tal and physical condition of the patient was almost immediate. "So rapid was his recovery," said Dr. Brown-Sequard, "that within six weeks from the date of the operation he presented himself at my office perfectly well in every respect."

Dr. Sayre, of New York, in the Transactions of the American Medical Association for 1870, has reported several interesting cases of partial paralysis of the lower extremities, associated and evidently dependent upon adherent and contracted prepuce. One was of a boy five years of age, unable to walk without assistance, or to stand erect—his knees being flexed at an angle of forty-five degrees. The operation of circumcision was performed on this lad by Dr. Sayre, and "from the very day of the operation the child began to improve," and without other treatment made a rapid and complete recovery. In a second case, a lad of fourteen years had been under treatment for paralysis of his legs for several months without marked improvement, when it was found that a contracted and adherent prepuce was present, causing great local irritation, dysuria, and painful erections. The preputial contraction was recognized as a possible important factor in causing the paralytic trouble. Circumcision was performed, resulting in complete recovery from the paralysis in six weeks.

Sir Henry Thompson says:* "I have given complete relief to distressing symptoms of very long continuance, *the cause of which was not suspected*, by dividing an external meatus, which, nevertheless, admitted a No. 6 English catheter. I have met," he further states, "with three marked examples of a similar kind, in which the very simple operation necessary was followed by *complete disappearance of urinary difficulties, which had been long regarded as of an extremely obscure character.*"† He cites a single case: "J. J., aged thirty-four, a gentleman

* Stricture of the Urethra, second edition, page 249.

† Page 253, op. cit.

whom I had visited at the request of his medical attendant, in the spring of 1857, had been suffering from painful, prolonged, and frequent micturition for five years previous. He was compelled to pass water from three to five times every night, and every two hours during the day; experienced severe pains in the back and loins, and general ill health. Urine was purulent, fœtid, alkaline; results of habitual retention and partial engorgement of the bladder. He had been treated for renal disease without any good effect. On examination I found a simple narrowing of the urethral orifice, and marks of previous ulceration in a small cicatrix. I learned," says he, "that he had had chancre seven years before, which involved a large portion of the meatus, after the healing of which his present symptoms almost imperceptibly appeared. A probe only passed through the opening. I divided the contraction so as to make a free opening. A No. 10 catheter was passed easily into the bladder, demonstrating that there was no other obstruction, and twelve ounces of urine were drawn off, although he had passed water just before. The relief was almost instantaneous—in a week it was complete. He has had perfect immunity from his urinary complaints ever since.

By the cases already cited, and many others scattered through the periodical literature of the past few years, it is sufficiently proved that paresis, more or less pronounced, may result from irritations reflected through peripheral nerves, without any coincident morbid change in the structure of the spinal cord, and that incontinence of urine, retention of urine, suppression of urine, involuntary seminal emissions, may, in the same manner, result from irritation at the *extremity of the glans penis*. The case of simulated cerebral *ramollissement*, related by Brown-Sequard, occurring as a direct sequence of like irritation, indicates the wide range of sympathetic disturbances which may be initiated by simple inflammatory action at this point. Now, aside from the fact that the glans penis

is known to be extraordinarily rich in sympathetic nerve cells, that it is the recognized initial point from which the physiological sexual excitement is transmitted throughout the male genitalia, the records of clinical experience abound with evidences of the capacity and proneness of this especial region to produce reflex disturbances, often of a grave and lasting character, throughout the entire nervous system. Notwithstanding these facts, I believe that the full significance of this locality as a source of reflex irritations along the genito-urinary tract has not yet been appreciated; and, further, I am convinced that many heretofore obscure difficulties and diseases of the genito-urinary organs may be distinctly traced to the locality of the meatus urinarius as the source of their initiation and continuance. In pursuance of this idea, permit me, gentlemen, to present for your consideration the following cases:

CASE 1.—A. Y., physician, aged twenty-eight, contracted first gonorrhœa November 20, 1873. Severe—lasted four weeks; treatment by alkalies, internally; continued application of cold, mild injections. Was under my care. I noticed, on examination, that his penis was large and the meatus small, and called patient's attention to this fact when he first presented for advice, and assured him if he did not have a fair recovery it would be necessary to enlarge the meatus.

January 19. Patient presents, with gleety discharge without known cause, great irritation at the neck of the bladder, and frequent desire to urinate; is certain that his former disease was imperfectly cured, and that it has come forward from the deep urethra to which it had extended in his original clap. I reminded him of his contracted meatus; he is certain he needs deep injections, but submits to operation for enlargement of meatus. Cut it to 30*f*, after which 30*f* bulb passes throughout the canal with ease: to keep the incision open until healing is complete.

January 24. Patient reports immediate cessation of irritation in the perineal portion of the urethra on division of the contraction. The discharge ceased within forty-eight hours, and he has had no trouble since.

Case 2.—September 10, 1872, Mr. W., a Swede silk-weaver, was brought to me by his medical attendant, complaining of pain and general discomfort about the perineum, and especially of a nervous uneasiness in that region and in the glans penis, which prevented him from pursuing his avocation; he could not sit still. Had had a gonorrhœa several years previous. Had been treated for stricture by dilatation for several months, but without relief. Examination showed a narrow meatus, No. 20*f*. Stricture at two and a half inches, defined by 18*f*. A free division of the meatus was made with Civiale's *bistourie cache*, and of the stricture with the dilating urethrotome; 27*f* passed readily through: to be kept open by daily introduction of sound until healed.

September 20. Patient reports entire cessation of the irritation and nervous feeling immediately following the operation, but this returned yesterday. Examination shows recontraction of the meatus to 20. Cut again freely.

November 16. Patient again called, with the statement that he had been able to work until the day previous, when the irritation again returned, and he desired to be cut again. Examination showed a recontraction at the meatus to 24. Cut again, and inroduced 30*f*, which passed easily through the site of stricture at two and a half inches, and down to the bulbo-membranous junction. This patient called two months after (January 20), and had had no return of his trouble—no recontraction of meatus.

Case 3.—Mr. W., aged twenty-seven, had gonorrhœa in 1870, lasting one month, when a fresh exposure resulted in another attack, which lasted, under a sharp fire of injections, for six months longer. Since that time has always had a return of the discharge after connection. Has been under

treatment for stricture by several physicians, but none succeeded in entering the bladder. His last medical attendant, after treating him for a couple of months, said that he had no instruments small enough to pass, and advised him to put himself under my care. Examination (April 16) showed organs unusually well developed, meatus contracted to 24*f*, and red and pouting, and bathed in a muco-purulent discharge. Twenty-four sound is arrested at five inches; only fine filiform will pass, and that is closely hugged.

April 19. Pass filiform with ease, follow with No. 10, and then, with some effort, with No. 16*f;* after this the filiform is again closely hugged in the membranous portion; divided the meatus freely, and introduced No. 30 steel sound, which passed literally by its own weight down through into the bladder, thus proving not only the spasmodic character of the deep obstruction in this case, but its entire dependence upon irritation caused by the stricture at the meatus.

CASE 4.—October 30, 1873. J. W., aged thirty-two, had gonorrhœa ten years ago, very severely, lasting, with pain and difficulty of micturition, fully six months. After being apparently well for three years, a gleety discharge appeared without new exposure. Masturbated daily from fourteen years of age to twenty, when he abandoned the habit. At twenty-six began to have nocturnal emissions, which, growing gradually more frequent since the last two years, have occurred almost nightly. He has had occasional sexual intercourse. Erections have been imperfect for last eighteen months, ejaculation taking place before the erection was complete. He has suffered much from despondency and nervousness. Has had no treatment except for general health, which much of the time has been indifferent. Examination shows genitals well developed and apparently normal, with the exception that while the circumference of the flaccid penis is three inches, the meatus is contracted to 22*f* (the size of

urethra in a penis three inches in circumference is, as a rule, fully 30*f*).* See note.

November 1. Divided meatus thoroughly, and passed 31 bulbous sound readily through contraction.

November 11. Has had no emission since date of operation.

December 1. Found himself getting so much better in spirits and feelings generally, that he ventured to marry on the 25th. Since that time has had no trouble of any sort. *Considers himself a well man.*

CASE 5.—Mr. W., aged twenty-five, came under my care December 1, 1872. Contracted first gonorrhœa early in June, 1872. Was treated by the use of injections locally, and alkalies internally, until August 1, during which time he had no freedom from the discharge nor from acute suffering. About this time the vesical neck became involved, and he suffered much from frequent painful micturition. Came then under the care of a skilled endoscopist, who discovered numerous spots of granulations in the course of the canal, extending quite into the prostatic portion, and applications of a strong solution of nitrate of silver were made through the endoscope, which gave temporary relief; urination still painful every hour.

By September 1, after the use of pencils of tannin and glycerine, discharge decreased to a slight mucous. A spell of damp weather brought back the purulent discharge, with return of perineal pain and frequency of micturition. Tan-

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NOTE.—I have recently operated for congenital contraction of the meatus in a child ten years old, where the circumference was two inches. After the operation 22*f* was passed easily through the urethra.

*3½ inches indicates urethral caliber 32*f*.

3¼	"	"	"	"	34*f*.
3⅜	"	"	"	"	36*f*.
4	"	"	"	"	38*f*.
4¼	"	"	"	"	40*f*.

nin pencils again used, but after continuing for four weeks, and no improvement, patient was put to bed, and hot hip-baths every two hours, etc.

After five weeks of this treatment, and various other, local and general, he came from his bed to me, December 1, 1872. On examination I found no difficulty in introducing No. 20*f* bulbous sound, and discovered a firm cartilaginous stricture, extending from just within the meatus one-half inch back. This I cut freely with Civiale. Immediately following the operation, he expressed himself as feeling "like a new man." In his written report of the case (he was a physician), he stated that "on the division of the stricture the relief *was wonderful.*" The discharge ceased within twenty-four hours, the perineal pain and frequency of micturition, and the ardor urinæ also ceased, and he returned to his duties, which were most active, on the following day (after having been laid up for over five months), and has continued on duty up to the present date, although he still suffers occasionally from prostatic pain. The prostate, which I found double its normal dimensions on his first visit, is now found to be reduced in size fully one-third.

CASE 6.—Mr. B., aged forty, from early boyhood has had more or less irritation of the urethra, usually referred to the vicinity of the meatus urinarius. Twelve years since he had an attack of gonorrhœa, which continued for nearly a year, in spite of a variety of treatment. Suffered much during this attack, especially with pain in the glans penis. After a continence of several months, on having sexual intercourse, found the act of seminal emission was accompanied by an intense burning pain, extending through the perineum and lasting for half an hour, described like red-hot lava running over a raw surface. On subsequent similar occasions, finding the same result, his physician, being consulted, called it a sexual weakness, and treated him by introduction of bougies. This failing to afford relief, he

eschewed sexual indulgence entirely. Occasional nocturnal emissions were accompanied and followed by the same pain previously referred to, but less severe than in connection. In June, 1873, after seven years of continence, he noticed a slight gleety discharge from his urethra, with pain in the glans penis, aggravated by motion, walking or riding. After a variety of opinions by various surgeons, as to the nature of his complaint, it was finally decided to be a stricture of the urethra, and was treated by the semi-weekly introduction of bougies. His stricture was supposed to be in the deep portion of the canal, and after six months of treatment his urethra was said to have been raised in calibre from 8 to 11 E. He then had an attack of acute cystitis, lasting two or three weeks, and since that time he has been subject to frequent trouble in micturition, frequency, and pain along the urethra, especially at the glans penis, and *"a feeling of wetness,"* as the patient describes it, "that is depreseing in the extreme." He also had weekly seminal emissions. Examination in this case showed full development of penis. 26*f* defined stricture one-third of an inch from the meatus. Examination of bladder fails to detect any calculus. No evidence of contraction at any other point in the urethra with No. 21*f* bulb. I divided the stricture at the meatus, and passed 30*f* solid steel sound, *easily drawn through the urethra and into the bladder.* This was in July, 1873. The operation was followed by immediate relief from pain and frequency of micturition. The discharge soon ceased, a gradual improvement took place in regard to the pain after emission, for several months, when it began to return, and also some of his vesical irritation. Examination revealed a recontraction of the stricture. This was again divided, and a few days ago the patient wrote me that he has done well since the last operation (which was performed in November), and is entirely relieved of all his most troublesome difficulties, but an occasional feeling of irritation in the perineal region induces him to think that slight recontraction may have again recurred,

and he proposed to return, at some convenient time, for examination upon this point.

CASE 7.—Mr. S., aged forty-five, has had gonorrhœa twice, followed each time by a gleet lasting many months, finally cured by introduction of steel sounds. Has had several attacks of irritability of the bladder since first attack of gonorrhœa, and long ago noticed that this was affected by the use of any alcoholic stimulant, and also that he did not completely empty his urethra after micturition. To effect this, he was in the habit of pressing his finger along the urethra from the perineum; unless he did this, a sense of irritation in the canal, and a desire to urinate, would come on in a few moments. Complained of feebleness in making water after a week or two of continence. On having connection, the stream is at once greatly improved. Any sexual excess is followed by pain in the perineum. His trouble was now thought to depend upon spasmodic stricture, and large sounds advised. In order to admit them it became necessary to incise the meatus. This done, 18E. was easily introduced, but not continued as contemplated, as all trouble passed off in a few days. A few months subsequently, however, his old troubles returned, and were not relieved by the use of the sound. At this point he came under my care. Penis found to be four inches in circumference, which would indicate a capacity of urethra of 38 of the French scale. No. 28 bulbous sound detects contraction at the meatus. This was freely divided, with the immediate result of relieving the irritation of the bladder, and in a short time pain following connection had almost entirely disappeared, and the stream of urine was increased in force, and the ability to empty the canal much improved. The patient is still under observation.

CASE 8.—Mr. Z., aged forty-six. Regular and chaste in habits until going to China, twenty years since. Following the custom of foreigners in that country, he indulged excessively in sexual intercourse for several years. Had a

single attack of gonorrhœa, from which he recovered completely in a few weeks. For the last few months he has been troubled with involuntary emissions as frequently as once a week, and, latterly, in his attempts at sexual intercourse he has failed, on account of the seminal discharge having occurred before the erection was complete. He feels quite certain that his genital apparatus is less in size than formerly. Examination shows pénis of normal size, three inches in circumference and three in length; some enlargement of the left spermatic veins; testes soft, full size, left largest; meatus urinarius contracted to 22*f*. On introduction of the bulbous sound through it, as it was quite unyielding, it required some slight pressure, and as it suddenly slipped into the fossa navicularis, a regular spasmodic retraction of the penis occurred at intervals of three or four seconds (retraction about a quarter inch), and continuing during the half minute that the instrument was retained, and continuing with rhythmical regularity for three or four minutes after its withdrawal. This result of the introduction of the sound was repeated several times at that sitting, the intervals between the contractions gradually lengthening, until an interval of five or six seconds occurred, when it ceased. These movements, so evidently of reflex origin, suggested the dependence of his seminal troubles on the same cause. I therefore divided the meatus thoroughly, and introduced thirty-one sound without difficulty through the urethra. After the operation, the introduction of the thirty-one bulb failed to excite the spasmodic contraction of the penis, nor in frequent subsequent experiments was I able to reproduce this phenomenon. An immediate improvement in the general condition of the patient occurred. His involuntary emissions ceased without other treatment, and six weeks after the operation he informed me that he had entirely recovered his sexual powers.

Case 9.—I. W., aged thirty-four, came to me in September, 1873, complaining of frequent seminal emissions, one or

two every week, pains in the lower part of the back, in the hypogastric region, in the groins, running into the testicles and extending down the inner aspect of the thighs to the knees. He was of chaste habits up to some four or five months previous, when he became engaged to be married. After this time he was the subject of frequent and prolonged venereal excitement and ungratified desire. In a few weeks involuntary emissions became frequent and finally painful, with suffering for some time after. Gradually the previously described pains of the back, hypogastrium, groins, testicles, etc., came on, resisting all treatment by his family physician until the present time. I prescribed for him absolute abstinence from sexual contact, general care of diet, position in sleep, cold ablutions, etc., and a mixture of bromide of potassium with the bromide of ammonium and tincture of ergot. December 3, three months after (living several hundred miles distant), he came again to see me, with the report of an entire relief from the seminal emissions, but had had swelling of testicles, and still suffers from almost constant pain in the back, over pubes, in the groins, and, especially of late, in the testicles, extending down the thighs. Examination revealed a serous effusion into the *tunica vaginalis* of of both sides; in the left some three or four drams of fluid; in the right rather more, and which backed well up to the external abdominal ring. The light test showed this fluid to be quite transparent. I at first thought of treating it as an ordinary hydrocele, by withdrawing the fluid; but on finding a meatus, situated on the superior aspect of the glans, contracted to 15*f*, and holding the bulb for fully one-third of an inch, and further finding that he had long been troubled with dribbling after micturition, I explained to the patient the possibility of all his trouble arising from this congenital deformity. He promptly consented to an operation, and I divided the contraction thoroughly, passing afterwards a thirty-four steel sound through the urethra.

(Circumference of penis three and a half inches.) Several sensitive points were recognized by the patient during the passage of the sound, indicating a granular condition of the mucous membrane. Immediate relief of the pain in the testicles and down the thighs followed the operation. Within a month all trace of fluid in the *tunica vaginalis* had disappeared; he had had a single nocturnal emission without pain, and with the exception of a feeling of nervous anxiety through the hypogastrium (which came on occasionally), and some pain in his back, after general fatigue, he was quite recovered from his troubles. No internal remedies were made use of subsequent to the operation.

Case 10.—Mr. De F., aged forty-three, came under my care in March, 1867, suffering from retention of urine following a debauch. As no great amount of urine was present in the bladder, I gave him mur. tr. ferri, advised a hot bath, and left him. On the following morning he expressed himself free from any trouble, and declined an examination of the condition of his urethra. In December, 1871, he again presented, complaining of incontinence of urine. He was also suffering from intermittent fever (which I suspected was due to his urinary trouble.) Said he "made his water freely, but could not hold it." I found some accumulation in the bladder. As the patient lived out of town, I made no examination, but advised him to make arrangements to come in town on the following day for treatment.

He did not present again until November 30, 1872, when he came with the statement that he had then lost all control of his urine, had had none for the past year. On the day previous, while riding, he noticed a swelling in the perineum, and "wished it looked after." Examination revealed a firm elevation on the left of the raphé, one and a half inches in diameter at the base, and about an inch in elevation, extending from just behind the anterior border of the anus to the junction of the scrotum with the perineum; solid, resi-

lient, and painless; no constitutional disturbance; temperature, 98½°. On examination of the urethra, expecting to find a deep, tight stricture. I was surprised to find myself able to pass No. 13*f* catheter into the bladder, and to draw off a full pint of fetid urine, although he had just urinated. During the day the swelling increased, and interfered with the calibre of the urethra, so that I could only pass a No. 1 catheter into the bladder, and that with difficulty. Attaching this to Dienlafoy's aspirator, I drew off a pint and a half of urine. This, on examination, was found to be free from any evidence of organic disease of the kidney.

I then incised the tumor down through the superficial perineal fascia, and gave exit to a thin layer of pus, in quantity about a drachm.

It was only on the fourteenth day after (the swelling gradually subsiding) that urine was found flowing through the wound. In the mean time, the patient suffering from cystitis, his bladder was washed out with a double-channeled catheter, No. 20*f*, which was passed without difficulty, although a perceptible clinging was recognized near the meatus—his bladder trouble increasing so that he made his water every hour, and was loaded with pus. I urged an operation on the stricture, which, from the easy passage of the catheter, I had not before considered of much importance. Introducing bulbous sound No. 20*f*, I could not detect any stricture; on its withdrawal it was arrested at a point half an inch from the meatus, incising the stricture with the dilating urethrotome, which (No. 23*f*) I introduced with some difficulty; I then passed No. 30 sound, without obstruction, down into the bladder. On the following day I found that the frequency of evacuation of the urine had decreased from *one* hour to *six* between the acts; that the purulence had decreased, and that much less urine flowed through the opening in the perineum. From that time the patient continued to improve; his control of the flow of urine was restored; the

purulence gradually disappeared, and within a week his perineal incision had healed, and he left for his home apparently well, not having had any treatment whatever since the healing of the wound at the point of stricture. Circumference of penis in this case, three inches.

Case 11.—February 12, 1872, Mr. A., aged fifty, came under my care, through the courtesy of a professional friend, with the statement that he had been suffering from chronic irritation of the bladder, accompanied by a slight urethral discharge, more or less troublesome, for a period of five years.

He was thought by his physicians to be the subject of "gravel," and for a long time had been much treated, and was finally sent abroad, in the hope that entire change of habit and climate might afford relief. He returned somewhat benefited. Soon after (about three months previous to his visit to me), subsequent to a season of prolonged exertion, physical and mental, acute irritation of the bladder recurred, with reëstablishment of the urethral discharge, the latter quite like gonorrhœa, and was treated as such, although he had lived in the odor of marital sanctity for more than twenty years. Anti-blennorrhagics were administered with no benefit. Injections afforded only temporary relief.

The patient presented to me in usual general health, digestion good. He gave a history of an attack of gonorrhœa twenty-five years previovs, which was treated solely by internal remedies. A profuse muco-purulent discharge was present. On urination the stream was irregular and contracted. Meatus of average size, and admitted No. 18*f* bulbous sound; this was passed slowly and with some pain for half an inch, when it suddenly slipped into a capacious urethra beyond. On withdrawal, it was firmly held at half an inch from the meatus. On the same day I incised the stricture freely with Civiale's bistourie caché and passed No. 26*f*, and sent him home with directions to his professional attendant to have dilatation practiced daily until healing of the

wound was complete. Returning July 2d, he reported himself as having had entire relief from his bladder trouble, and from the discharge, since the healing of the incision. For a few days previously, however, he had suffered with some vesical irritation. Examination revealed some contraction still remaining on the site of the stricture; this I at once relieved by the use of the dilating urethrotome, and passed 30*f* down into the bladder.

CASE 12.—T. W., aged thirty-five, had gonorrhœa fifteen years ago; has had it several times since. The last time, four years ago, coming on forty-eight hours from date of exposure. After the discharge had existed ten or twelve days, he states that he "stopped it with a powerful quack injection." Three or four days subsequent to this he began to suffer with a neuralgic pain in the left testicle, the scrotum became tender and red, testicles moved up and down alternately much of the time, and the penis was greatly contracted; there was likewise pain in the groins, described as drawing and sickening, which extended down into his knees and the bottoms of his feet. This continued with varying severity almost without cessation up fo February 22d, when he came to New York for treatment, and fell into the hands of an endoscopist, who discovered numerous granular spots deep in his urethra. Applications made at regular intervals for about three months without benefit. An application of carbolic acid to the scrotum gave some relief to his nervous feelings, but this caused vesication, and the relief was but temporary. About May 1st he sought the advice of a surgeon skilled in genito-urinary diseases. Slight stricture was discovered near the meatus, and several indurated points farther down. 28*f* solid steel sound was introduced, and after some repetition during one month was given to the patient to be regularly used once in three days until his trouble ceased.

Went back to his home, some eight hundred miles distant,

and pursued the plan laid out for him, but received no benefit. The motion of his testicles was almost constant, and the nervous feelings this induced drove him almost frantic—compared with it the pains in his groins, knees, and feet were a positive relief. He became very low-spirited and despondent. Early in October his physician (who had accidentally met with an article of mine in the second number of Dr. Brown-Sequard's Archives on "Reflex Irritations of the Genito-Urinary Apparatus, resulting from Stricture") advised him to return to New York and put himself under my care. Examination discovered a penis of normal size, three inches in circumference; scrotum greatly relaxed and covered with eczematous scales produced by the carbolic acid; testicles hanging very low. My attention was at once drawn by the patient to the rhythmical contraction of the cremaster muscles, through which a see-saw motion of the testicles was kept up, and which constituted his chief annoyance. 30*f* bulbous sound passed the meatus, but was arrested at one-half inch, a point to which his greatest sensitiveness, during passage of instruments, had always been referred. 28*f* passes through and detects another stricture at two inches, and still another at two and a half.

On Friday, October 17, at my invitation, the patient was examined by Dr. Coldham, of Toledo, Dr. J. DeForrest Woodruff and Dr. Frank Howe, of New York, especially in reference to the spasmodic action of the cremasters. This was very marked and constant, and continued until the patient was placed under the influence of ether by Dr. Howe. I then demonstrated the size and locality of the strictures before mentioned, and divided them in succession with the (my) large dilating urethrotome, after which I passed with ease a 30*f* steel sound through all and into the bladder. As the patient emerged from the influence of the ether, it was observed that there was no longer any of the spasmodic action of the cremasters. When he became conscious, he stated

that he already felt less of his nervous feelings than for many months. He was "certain that the right chord had been struck."

October 8. Improvement continues—no return of spasmodic motion.

October 20. Examination with 30*f* bulb shows a slight clinging at one-fourth inch from the external orifice. Cut this at once, and freely, with straight bistoury, and pass 31*f*. The patient, on the following day, expressed his belief that a complete cure had been effected; that since the final division of the meatus he had not had the slightest return of the abnormal sensations and pain with which he had, in some degree, constantly suffered for the previous four years. Daily introduction of the bulb was kept up, in this case, until all bleeding ceased, when the patient was dismissed with the promise on his part to inform me by post if he had any return of his trouble.

CASE 13.—Mr. H. D., aged fifty-one, had been under my professional care for several years; suffered from renal colic on two occasions—once in 1869, and again in 1871. Was not conscious of having passed any stone through the urethra. Came to me in February, 1872, complaining of a sense of irritation at the *glans penis*, and a frequent desire to urinate. Careful exploration of the bladder failed to discover any calculus, but the *meatus urinarius* was red and tender, and contracted to 20*f*. This contraction was at once divided freely; size not noted. The relief from the irritation was immediate and complete. In May, 1873, Mr. D. called, stating that his old irritation had returned. Examination showed that the meatus had recontracted to 23. This was again divided, with relief equally prompt as on the first occasion; but in the subsequent daily introduction of a glass tube, size, 30*f*, an unnecessary degree of violence was used by the patient, setting up an inflammation, which extended back as far as the prostate, and threatened to culminate in an abscess of

that organ. This inflammation was accompanied by a discharge which did not differ from an ordinary gonorrhœa in the declining stage. After two months of treatment the discharge still continued, with more or less irritation of the vesical neck. Meatus contracted to 24. Again cut to 30*f*. This operation was followed by immediate relief from the vesical irritation. The discharge ceased without other treatment, and up to January, 1874, the cure has remained permanent.

Case 14.—Mr. M., aged twenty-seven, had a history of seminal weakness, following self-indulgence from fourteen to seventeen. Has never had venereal disease. Began to notice a lack of virility a year ago. Seminal emissions weekly. Erections imperfect. Frequent desire to urinate, which is promptly relieved by tr. ferri. mur.; but this soon causes constipation (in spite of any thing short of brisk cathartics), and increased seminal discharges result. Has a constant and annoying sense of wetness about the glans. Always dribbles in his clothes after urination. Microscopic examination of urine shows nothing abnormal but a few shreds of mucous. Prescribed mixture of bromid. potass. and bromid. ammonium, which arrested seminal emissions for a full month. He returned in better spirits. Has much less sexual desire than formerly, and occasional imperfect erections. Has not been obliged to urinate more than three or four times a day since taking the bromides. When he came to me he described the desire to urinate as *unceasing*. After a month he returned with some measure of his urinary irritation, although still taking the bromides. Great annoyance at the dribbling after urination, and says that the constant sense of *wetness* is depressing to the last degree. Examined meatus critically; 30*f* passes, but hugs slightly on return; 31 will not pass. Size of flaccid organ three and one-half inches in length, and four in circumference. From this I estimate the normal caliber of the urethra at 38*f* at least.

As the dribbling seemed to indicate some retention at meatus, I concluded to divide it freely. This was done without pain, under the influence of local anæsthesia, when bulbous sound No. 38*f* was passed with ease through the length of the urethra, detecting several small sensitive granular points in its course. The relief from the dribbling in this case was immediate and complete, and the *sense of wetness* (as the patient always expressed it), which gave him so much annoyance, was completely removed. Although taking no internal remedies, he has had no return of emissions; the irritation of the bladder also disappeared, and up to the present, one month from the date of operation, it has not returned. In this case the difference between 30*f*, which measured the size of the evidently contracted and unresilient meatus, and 38*f*, which was easily passed after division of the stricture, viz., six millimeters, shows the extent of the contraction.

CASE 15.—A. W., aged twenty-seven, seventeen years ago had first attack of gonorrhœa. Afraid and ashamed to speak of it, he suffered greatly for four or five months without any treatment whatever. Has had several attacks since, which were treated solely with injections. About six months ago had an attack of sub-acute prostatitis, which caused him much pain, both in urination and defecation. This lasted several weeks. Since that time he has had desire to urinate more frequently than natural—several times during the day, and also disturbed frequently at night. For the last five days he has been obliged to pass water almost every hour during the day, and at least every hour during the night, suffering great pain in the perineum, also in the rectum, at each act of micturition. He has, besides, a constant desire to defecate. January 10, 1874, examination, per rectum, reveals a tender and enlarged prostate fully double the normal size. External genital organs normal, except the *meatus urinarius*, which was contracted to 20. Circumference of penis

three and one-fourth inches. On passage of 20 bulbous sound, a distinct, unyielding fibrous ring was detected, which held the bulb firmly at one-fourth inch on its return. 19 detects second stricture at one inch, and a third at one and three-fourths.

For the patient's immediate relief, half a dozen Swedish leeches were ordered to be applied to the perineum at the anterior border of the anus. Morphia suppositories every four hours. Under this treatment, with rest in bed, the rectal discomfort abated. Frequency of micturition, with pain in the perineum and rectum, remained without much amelioration until January 16. On this date the patient was etherized, and with the assistance of Dr. Beach Jones and Dr. Wiesfelder, I first divided the stricture at the meatus freely with Civiale's *bistoury caché;* then, introducing the small dilating urethrotome, I dilated to 30*f*, and cut the second stricture at one inch; readjusted and cut the third at one and three fourths, after which 31 steel sound was passed readily into the bladder.

The relief from pain and irritation in the rectum and at the neck of the bladder followed the operation almost immediately. By the following day the desire to urinate was reduced to the normal standard, and the patient was disturbed only once during the night. February 10, twenty-six days after the operation, he reports himself as having had no further trouble, and as passing his water two or three times during the day, and once at night. Examination per rectum shows the prostate free from tenderness, but fully double its normal size. Thirty-one steel sound passes through the urethra without the slightest trouble.

Case 16.—Mr. X., aged fifty-four, seen in consultation with Dr. Ives, his family attendant. Had a history of first gonorrhœa twenty-eight years previous; severe, lasting two months. Second attack eight years ago; not severe, subsiding entirely in ten or twelve days under the use of injections of acetate

of lead alone. Three years ago he began to be troubled with frequent micturition during the day, and four or five times at night, associated with pain extending from the end of the penis to the neck of the bladder; also pain in the testicles and perineum, and extending down the thighs. Water occasionally stopped, and required to be drawn off with a fine catheter. Was taught to do this himself, and has often required relief in that way. About the first of August last, after using the catheter, he discovered a small bit of gravel in the eye of the instrument. Since that time he has voided a large quantity of the same sort, with fine, whitish sand, mucus, pus, and blood. Was under the care of a prominent surgeon in Brooklyn last summer, who, after careful examination, assured the patient that he had no stone in the bladder. This surgeon treated him at first by frequent washings out of the bladder; afterwards he used the galvanic current, with one pole in the bladder and one on the back. This was continued *daily* (?) for six weeks, but no improvement was manifest, and as the patient was much debilitated he was sent into the country to recruit. Since that time he has had no treatment except the use of Lee's lithontriptic pills, and the use of the catheter when required by attacks of retention of urine.

November 24, 1873. Present condition: Is in feeble general health. Has an expression of great and constant pain; is very restless and moans frequently, although evidently attempting control; skin pale and yellow; says his weight is 130; weight formerly 160. Genital apparatus well developed. Right testicle invaded inferiorly by a mass of fibrous feel, involving one-half the body of that organ. Left much the same, but softer. Passes urine in my presence in a small, divided, uncertain stream. Urine of strong, stale odor, thick, and muddy in appearance. Coagulum under heat, which is not dissolved by nitric acid. Cursory microscopic examination shows cells of pus and blood. Epithe-

lium from urethra, bladder, and pelves of kidneys, but no casts. Meatus urinarius apparently normal. Twenty-nine bulbous sound passes to the depth of one-third of an inch; it is, however, abruptly arrested at this point, and only 20*f* will pass. This (No. 20) found no farther obstruction in the deeper portion of the canal, but on return was firmly held at three-fourths of an inch, thus defining a stricture more than one-third of an inch in breadth. Visiting the residence of Mr. X., November 26, he was found walking the floor with constant moans, begging to have the operation done at once to relieve his agony. Assisted by Dr. Ives, the patient was promptly anæsthetized. The stricture near the meatus was then thoroughly divided, and No. 30*f* bulbous sound passed through to one inch—here it was abruptly arrested; 24*f* only would pass, and was held firmly on return at one and one-third inches. I then introduced the dilating urethrotome, turned up to 30*f*, and cut; 30*f* bulb was passed down to two inches, where it was again arrested; 28*f* only will pass, and on withdrawal is held at two and one-fourth inches. Re-adjusting the urethrotome, this band was also divided, when 31*f* steel sound was passed without force through the entire urethra. Ferguson's short-beaked sound was then introduced into the bladder and thorough search made for stone, but without success. Hemorrhage slight, ceasing entirely within fifteen minutes after the operation. Dr. Ives remains in charge.

November 29, three days subsequent to the operation, Dr. Ives called, reporting that the patient had no pain of any kind following the operation, up to his visit of yesterday. Under the influence of ten grains of quinine and a quarter grain of morphia he had slept for six hours, and on waking passed water with freedom, with slight smarting, but no pain. After this the intervals between the acts of micturition averaged about four hours. Passed the steel sound 31 with ease. Purulence in the urine greatly decreased.

December 16. Dr. Ives reports Mr. X. as having suffered for a day or two past with pain in the penis. Purulence in the urine has entirely disappeared; 30 steel sound drops through the urethra into the bladder by its own weight. The possibility of slight recontraction of the stricture at the meatus as cause of trouble was suggested.

December 23, Mr. X. called with Dr. Ives. He reports, personally, that while he passed his water every half hour with great straining and pain before the operation, that since then he has not been called to urinate oftener than once in three or four hours, up to within a week since, when it has been once in two hours. All the pains in the back and lower part of the abdomen, in the testicles, and extending down the thighs, passed off entirely within a few days after the operation. During the last ten days he has had pain referred to in the vicinity of the prostate when urinating, and the stream has been small and weak; could void it only by straining. He had himself passed 30*f* steel sound the day previous.

Examination of the prostate, per rectum, reveals no enlargement or tenderness; 30*f* sound passes without difficulty into the bladder, except a little hugging near the meatus; 29*f* bulb is arrested at one-fourth of an inch, and holds on return at three-fourths. I introduced a straight bistoury and cut through the contraction, so that No. 34*f* bulb passed in and out without obstruction, to keep this well open until healing is complete.

CASE 17.—October 9, 1873, I was called to see a gentleman aged sixty-four, whose general health had always been good; he had lived generously, but regularly. He stated that for the ten years previous he had occasion to urinate on an average every hour during the day, and through the night even more frequently; for the previous six months he was confident that he had micturated every half hour, unless some necessity prevented, when he always suffered from the delay.

At no other time had he any pain; the frequency of micturition was simply an inconvenience. He stated that he had never had any gonorrhœal trouble. Several years previously he had consulted an eminent surgeon in regard to his urinary trouble, and was said to have "stricture just beyond the middle of the penis." For this he was treated by the occasional introduction of bougies for a couple of months, at the end of which time, no benefit being apparent, he ceased bestowing any attention to the matter. About three months ago he began to notice a creamy sediment in the urine, which would cling to the floor of the *pot de chambre.* It was not, however, until about three weeks ago that he began to suffer actual pain and straining on passing his water. To this was soon added pain *in the testicles, through the hypogastrium, and also in the perineum, and extending down the inner aspect of the thighs to the knees.* The stream of urine was subject to frequent sudden arrest, and the straining which followed was severely painful, and pain extended throughout the regions previously mentioned. The urine soon became of a deep reddish brown color, with occasional strings of blood and mucous mixed with the copious creamy sediment, which was now persistently deposited. Notwithstanding all this, he continued to ride daily, a distance of some three miles, to his office. About a week since, finding the motion of his carriage greatly aggravating his pains, he consulted an eminent medical personal friend of his, who informed him that he had a grave cystitis, and commended him to my care. I found him sitting on a hop poultice, which had been prescribed for him by his wife's medical attendant (a homœopath), and ascertained that he had been taking frequent doses of a homœopathic preparation of belladonna.

Present condition: Constitutional disturbance very slight, pulse 80*f*, temperature 93¾. Inspection of urine in the *pot de chambre* (which was about one-third filled, and had been

standing for several hours) showed a deposit of mucous and pus, stained and streaked with blood, fully one and a half inches in depth. Examination per rectum determined the prostate to be of even less than the normal size, and free from tenderness.

The introduction of Ferguson's short beaked sound (No. 20*f*) into the bladder was effected with great gentleness, but with ease, and without meeting with any abnormal impediment in its passage. The bladder was then thoroughly explored for calculus, but with a negative result. Confident, at first, from the history and condition of the case, that it would prove to be one of stone in the bladder, I had, thus far, only cursorily examined the meatus urinarius. Ferguson's sound (No. 20*f*) had passed through it easily. 22*f* and 23*f* bulbous sound were now passed with ease, but 24*f* was held at one-third of an inch. After slight pressure for a few seconds it slipped suddenly through a ring of fibrous tissue and passed, without obstruction, down to the bulbo-membranous junction. The patient was then put upon a free use of infusion of triticum repens, and suppositories of belladonna and hyoscyamus every six hours.

A subsequent microscopical examination of the urine showed pus and blood in abundance, some urethral and vesical epithelium, none from the ureters, or pelves of the kidneys, no casts. Albumen slight; specific gravity 10.20.

On suggesting to the patient that division of the strictured meatus was likely to be a necessity before much relief would occur, he desired that his friend, Dr. J. Marion Sims, should be called in consultation.

On Thursday, the 14th, after an exhaustive consideration of the case, Dr. Sims coincided with me as to the possibility, nay (in the absence of calculus and prostatic disease), of the probability, that the well-defined contraction at the meatus was the original cause of the cystitis, and might be justly held responsible for its continuance. The operation was at

once decided upon, and the patient placed under the influence of ether by Dr. Harry Sims. I then thoroughly divided the contraction—first by the use of *Civiale's bistoury caché*—completing the division of some remaining elastic fibres with a straight blunt bistoury, until the opening admitted bulbous sound 31. This was then carried easily down to the membranous urethra, without discovery of any farther obstruction. The bladder was again thoroughly explored for calculus by both Dr. Sims and myself. It was found to be much contracted and thickened, but contained no stone.

On the 15th (the day following the operation) I ascertained that, since the division of the contraction, our patient had not had the necessity of passing his water more than once in two hours, and that the pains in the testicles, the hypogastrium, the perineum, and down the thighs, which had previously been his chief points of suffering, had *entirely disappeared.* There was manifestly less blood in the urine. By the 16th the pus had diminished one-half in quantity, the blood had entirely disappeared, and the intervals between the acts of urination had increased to two hours and a half. From this date the only treatment to which the patient was subjected was the daily introduction through the meatus, into and not beyond the fossæ navicularis, of a No. 31 bulbous sound. By the 26th (twelve days from the date of operation) the purulent sediment in the urine had entirely disappeared; riding or walking no longer gave him discomfort, and he had resumed his business. The intervals between acts of urination now vary from two to three hours. There is an occasional occurrence of spasm during the act, which causes the sudden stoppage of the stream, and the urine is voided slowly, and with but little more force than before the operation, but he is not conscious of any other abnormality remaining. He expresses himself as feeling and being in better condition than for years. A few days subsequent to this interview with the patient he went abroad to remain during the winter, and I have not since heard from him.

CASE 19.—Aaron, aged sixty-eight. History of a first gonorrhœa at twenty-one. Married at twenty-seven; had seven children, and no trouble with genito-urinary apparatus until four years ago, when he contracted another gonorrhœa. This, after a month, subsided into a gleet, and to this, in about three months after, catarrhal cystitis was added. The cystitis resisted every treatment, and has continued, in a greater or less degree of severity, up to the present time. About a year since he began to suffer with neuralgic pains in the groins and in the perineum, and he experienced a very uneasy sensation in his testicles, one of which became suddenly enlarged.

November 26, 1874. Penis only two inches in length, flaccid, three and one-fourth in circumference. Meatus 18*f*. Left testicle half usual size; right normal, but with a greatly enlarged and soft epididymis, almost entirely covering in the glandular structure, and forming a swelling above it as large as a Madeira nut, and described as the seat of long-standing and very troublesome irritation. Some muco-purulent secretion from urethra. Has been treated for some time by use of soft bougies, with pain and no relief. Complains of pains in back and groins, extending down along inner aspect of thighs; urination every half hour, day and night; freshly voided urine, loaded with pus and mucous; reaction alkaline; strong urinaceous odor; no renal epithelium or casts; albumen slight; is uneasy and restless in manner, and full of anxiety, quite like a confirmed hypochondriac. Examination with 18*f* bulbous sound detects a stricture at the meatus, extending back for half an inch, after which it slips down the urethra without giving evidence of any farther obstruction.

December 22. Saw the patient in consultation with Dr. Willard Parker. Division of the stricture at the meatus agreed upon. Ether administered by Dr. Charles Turnbull. The stricture at the meatus was first divided. Dense cica-

trical tissue, extending for fully one-half inch. Bulbous sound 32*f* was then passed to two and three-fourth inches, when it was arrested by a second stricture. 29*f* defined its calibre. The dilating urethrotome was then introduced, turned to 34, and the stricture divided. 31 solid steel sound then passed without obstruction through into the bladder. Relief to the neuralgic pains followed the operation almost immediately. Within forty-eight hours the intervals between acts of micturition had increased from one-half hour to four or five hours. Purulence in urine greatly decreased. Irritation in the scrotum ceased, swelling of epididymis gradually went down, and the patient made a complete recovery, without other treatment, *within four weeks.*

In the foregoing cases, presenting features more or less grave in their conditions and consequences, a point of significant interest is common to all, viz., an abnormal contraction at or near the meatus urinarius, the well determined sequel in the majority of instances of antecedent inflammatory action. Abnormal spasmodic muscular action plays a prominent part in every case. Spasm of the urethral walls, of the accelerator urinal muscles, of the cremasters, of the vesical neck, and of the seminal ducts, etc.; spasm, as in Case 10, so firm and persistent that the urethral walls finally gave way behind it; spasm that for months resisted the introduction of the smallest instrument, as in Case 3; spasm so persistent that the bladder was not allowed to completely empty itself for years (as in Cases 17, 18, and 19), and thus producing the chronic catarrh, which finally became so grave an element in these cases; spasm, as in Case 12, where the testicles played at see-saw for nearly three years, and until the poor wretch who owned them was driven to the verge of suicide.

Some one or several of these conditions appear as a persistent feature in each. Spasm, a well recognized result of irritation, is equally significant of debility. Most of the

cases, if not all, were subjects of sexual excess. Irritation supervening upon nervous debility, spasm naturally results. Irritations which are known to give rise to reflex disturbance are *not of necessity painful irritations*, or which by any special sensation invite attention at once to the source of trouble. Dr. Hanfield Jones (in his work on Functional Nervous Disorders, page 704), says: "It seems to be well ascertained that *unfelt* irritation may give rise to very various morbid phenomena, affecting both the motor and sensory nervous organs. Dr. Brown-Sequard maintains that various forms of insanity, of vertigo, chorea, hysteria, tetanus, etc., may be due to irritations, starting from a centripetal nerve, and frequently *slightly* felt or *unfelt*, and that the suppression of these irritations may promptly cure the patient." He cites a case where a married lady suffered for a considerable time with a uterine neuralgia, which ceased completely on the extraction of a tooth that had not caused any considerable annoyance.

In the excellent little *brochure* on Stricture of the Urethra, by Samuel R. Wilmot, London, he says: "It is easy to conceive with what ease morbid irritation in the urethra may elude detection, and which, though slight, may be capable of exciting perfect reflex action, particularly in systems of high nervous mobility, and, where the slightest irritation exists within the urethra, the mere influence of the mind, derangement of the digestive organs, and various other remote causes will lead to spasm." What, then, in these cases of evident reflex nervous trouble, is suggested as the cause of the irritation? Division of a contracted meatus, as has been shown, relieves the reflex disturbance; and yet simple contraction of the meatus can not be sufficient to produce such morbid nervous actions as cited; for it is well known that congenital contractions at this point are frequent, and yet no irritation ensues. In congenital contractions, however, the muscular surroundings of the urethral orifice are

in a normally supple condition, and able efficiently to play their part in completely emptying the urethra after micturition. Let this delicate muscular structure become infiltrated with plastic material, and the complete discharge of the last drops of urine, through its action, is rendered impossible. A *dribbling* after the act is the necessary consequence, and this is also an *unvarying* feature in all the foregoing cases. It is this inevitable retention of a few drops of urine which I believe to be the starting-point of the irritation. As time goes on, and the resulting plastic exudation becomes organized, cicatricial tissue forming and necessarily condensing, a permanent contraction results, which adds to the muscular inefficiency, especially when it occurs in an orifice congenitally insufficient. It is this condition which often prolongs a gonorrhœa, and is the most fruitful source of chronic urethral discharge following a gonorrhœa. That the retained urine causes the irritation I am led to believe still farther, inasmuch as behind structures at the meatus granular spots of inflammation occur, sometimes extending throughout the urethra, and on relief of the stricture promptly disappear without other treatment, as in the third case cited. I have seen many such. Local points of tenderness were present in almost, if not quite all the cases of reflex urethral irritation that I have met.

Then, as the urethral orifice becomes permanently contracted and unyielding, a distinct and sudden *arrest* of the stream of urine repeatedly occurs during the forcible acts of urination. Is it too much to believe that the force of this blow, at the point of arrest will add to the irritation, and that the effect of its recoil should be felt back even to the vesical neck? It seems to me that this may, after long years of such constant irritating influence, prove an important element in disturbing the harmonious action of the complex sensory, motor, and sympathetic nerve distribution, in the deeper parts of the urethra.

Considering the force and persistence of the spasm in certain cases, the idea of its *tetanic* nature has suggested itself, induced by pressure and irritation of the nerves of the glans, in the cicatricial contraction. The treatment of the contractions by complete division, resulting in prompt and notable relief in all the cases, is equally suggestive of simple mechanical obstruction, urinary retention, or cicatricial irritation. To be effectual, however, the division must be absolute and entire. It is not sufficient that the meatus be enlarged up to the normal urethral caliber. The incision must reach down *through all cicatricial tissue*, and so completely that the largest sized bulbous sound which can be passed through the opening shall pass in and return *without the slightest sense of resistance.* If it is less than this, the contraction is absolutely certain to return within a few weeks, often within a few days, in spite even of every possible effort to keep the parts dilated. Once, however, the stricture tissue is completely divided, it is then only requisite that the edges of the wound be kept asunder by the occasional introduction of a sound, until granulation is established throughout its extent. After this (if no new inflammatory action is set up) not only will no recontraction take place, but the old abnormal fibrous material will in time become wholly absorbed. This important statement, applying virtually to all strictures of the urethra wherever located, I do not make without the ability to prove it by the results of this plan, as presented in many cases thus treated, in over thirty of which examination has been had at periods varying from two years and three months to six months from the date of operation. During the last month I presented before the members of the New York Medical Journal and Library Association a case where originally six urethral strictures were present (including one at the meatus) of a size of 24*f*. These strictures were operated on (completely divided) with the dilating urethrotome in January, 1871, more than two years pre-

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vious. Examination with the bulbous sound No. 30*f*, in the hands of a committee, consisting of Prof. Alfred C. Post, James M. Miner, and Dr. J. DeForrest Woodruff, failed to detect the slightest stricture, either at the meatus or at any other point. In order to demonstrate the complete restoration of this urethra to its normal resilience, by gentle pressure, I introduced, in the presence of the members of the Journal Association, a bulbous sound, 34 M. in circumference, through the meatus, and down to the bulbo-membranous junction.

DISCUSSION.

Prof. Alfred C. Post, after expressing his thanks for the very interesting and valuable paper presented by Dr. Otis, said there was a single point which had been made concerning which he had some personal knowledge, viz., that one part of the body may be the seat of a painless affection, and yet cause distressing symptoms in some other part. Twenty years ago he suffered with a neuralgic affection for several days, when he discovered that a wisdom-tooth was the offending cause. This removed, the pain was at once and entirely relieved. Afterward, on relating the case to a dentist, he remarked that it was nothing new; that he had often met with similar cases. Dr. Post had also met with several cases of incontinence of urine in children, associated with phymosis, and which, treated by removal of the prepuce, resulted in cure without other remedial means. He had not met with the class of cases referred to in the paper just read, but he considered them analagous to those above related by him.

Dr. Richards had observed the association of varied reflex phenomena with stricture of the œsophagus and trachea, and could not but be struck by the coincidence in the character of the troubles with those described by Dr. Otis.

Prof. Detmold remarked that the facts presented by Prof. Otis were not surprising, if we stop a moment to consider that the sensitive point of all the tubes of the body is at the

openings. Normally there was no sensation in the cavities. If there was stone in the bladder the pain would be felt at the glans penis; and, besides, the most sensitive region of the human body—that with which the entire individual most thoroughly sympathizes—is that of the sexual organs. In connection with the feeling of *wetness* which is alluded to in some of Dr. Otis's cases, he had noticed that the feeling of cold was complained of by patients suffering from stricture and the resulting irritation, and was rather surprised that it was not mentioned among the cases related by Dr. Otis.

Dr. Otis remarked that he had not unfrequently met with cases suffering from seminal debility where the feeling of cold was complained of, but it was not present in any of the cases referred to.

Dr. J. G. Adams would like to ask if Dr. Otis had any faith in *dilatation* for the relief of such cases as he had described.

Dr. Otis replied that he had none; that complete division was the only remedy he had any confidence in. One of the most aggravated of the cases presented had been subjected to careful and persistent efforts at dilatation, the effect of which had only been to aggravate the troubles of the patient. He had, however, seen a number of cases where the difficulties had been temporarily relieved by a division which was not complete. These cases had occurred at his clinique, where the daily attendance necessary to prevent recontraction could not be secured.

Dr. Detmold stated that a patient of Dr. Otis's, whose meatus had been divided for a slight stricture, had come to him for treatment. and that he was the subject of an intense and painful orchitis; that he had refused the case, and had sent him back to Dr. Otis's clinique. He would like to know if this was the result of the operation, and if cutting stricture at this point had ever brought about troubles elsewhere.

Dr. Otis said he would not attribute the orchitis to the in-

cision; that if not the result of extending urethral disease, it was probably caused by the introduction of a sound through the curved portion of the urethra; that the simple division of stricture had never in his experience produced inflammatory trouble at any point, but that on several occasions the forcible attempts, by the patients, to keep the incision open, had resulted in inflammation of the glans, and in one instance had extended down the urethra, simulating an ordinary sub-acute urethritis, until it involved the prostate gland. It should have been remarked that several of the cases of reflex irritation reported were associated with an enlarged and sensitive epididymis, and that these conditions, as in Prof. Parker's case, were relieved by dividing the stricture at the meatus.

Dr. Detmold remarked that in a certain proportion of strictures there was also enlarged epididymis; but in the case he had referred to it was not a chronic condition, but an acute inflammatory swelling of the body of the testicle. If Dr. Otis ascribes this condition to the dilatation, does he believe that dilation after or before cutting the stricture will bring about an orchitis? It must have been a combination of the incision with the injudicious dilatation, for he had never seen dilatation alone produce an orchitis.

Dr. Otis had quite a different experience, and considered that the simple passage of an instrument through the urethra (sound bougie or catheter) was capable of producing such an accident, and this, too, when the introduction had been effected in the gentlest and most judicious manner. Dr. Otis referred to two cases published by him, he believed, in the Medical Record, in July, 1871, when the introduction of a soft bougie through a deep, but not very close stricture, was followed in both instances by an inflammation which could be distinctly traced, by the sensation of the patients, as it gradually extended through the entire course of the

vas deferens, terminating within forty-eight hours in an acute epididymitis.

Prof. Fordyce Barker spoke of several cases that had come under his observation, where disease of the orifice of the female urethra had simulated uterine disease, and that he could readily understand the possibility of such results as had been described by Dr. Otis as resulting from contraction of the male urethral orifice.

Prof. A. Jacobi remarked that he had no experience in such cases as those described, but that he would say a word concerning some of the symptoms alluded to. First, that of the sensation of cold. He thought Dr. Detmold had stated that this symptom was associated with partial or complete impotence. In such cases we had the symptom of cold from partial or complete paralysis of the vaso-motor nerves, and that in the cases related by Dr. Otis this symptom was necessarily absent, as the cases he recited were all those of nerve excitation, and not paresis. Then the feeling of wetness spoken of. There was no moisture in reality. The function of the urethra was to allow urine to pass; the brain identified this sensation with wetness. When the stomach is empty there is a feeling of hunger. When the mucous membrane is diseased, as in chronic catarrh, there is a feeling of hunger. In the same manner when we have trouble with the mucous membrane of the urethra we had the feeling of wetness.

Dr. Chamberlain spoke of a case which he had recently seen with Dr. Leaming, where a reflex irritation set up by a deep fissure of the anus had given rise to conditions which simulated locomotor ataxia, and which, on divulsion of the sphincter ani, was almost immediately and completely relieved from symptoms which had been said to indicate well-pronounced sclerosis of the anterior column of the spinal cord.

ART. V.—*On Artificially Produced Fever Processes in Human Bodies: Their Modus Operandi and Results.* By Z. COLLINS MCELROY, M.D., Physician to the Muskingum County Infirmary; Fellow of the Zanesville Academy of Medicine; Fellow of the Meigs and Mason Academy of Medicine; Member of the Perry County Medical Society; of the Licking County Medical Society; Secretary of the Muskingum County Medical Society, etc., etc. Reported to the Muskingum County Medical Society, at its Session in the City of Zanesville, Ohio, January 11, 1877.

It is one of the apparent paradoxes of life that physicians, whose mission is to prevent and heal human sickness, should be called upon, in most civilized countries, to produce in their fellow beings, at some period of their lives, an artificial fever process; in other words, to make them sick. Generally it is in the young, though quite often at later periods; and more frequently, at periods without regularity, efforts are made to reproduce the particular fever process in the same individual, to which reference is here made, called vaccination.

In some countries each individual born and reaching a certain age must be vaccinated. National or municipal law compels it, and provides or appoints certain persons to perform the service, and enforces on parents or guardians penalties for neglect or refusal to comply with the requirements of the law.

In our own locality, the presence of one or more cases of small-pox in the city, or its vicinity, is the signal for a general vaccination of the young, and revaccination of both old and young.

This is a voluntary act on the part of many, though with more it is compulsory in one form or other, either by councils of cities or towns, or boards of health, or, as is more frequent with us, by boards of education, or superintendents or teachers of public schools. In our city vaccination is not carried into effect under any competent professional supervision, but each school superintendent or teacher assumes to judge of its necessity in every case, after inspecting the cicatrices left by former vaccinations.

Vaccination was introduced into this country from England about the beginning of the present century, and rapidly grew in favor, until within the memory of many persons now living it was universally regarded with great favor. This state of the public mind, professional and non-professional, continued not far from half a century. Then doubters of its harmlessness and efficacy began to appear. These have gradually increased, until now they form a small minority of those best qualified to decide upon its advantages and hazards. As the evil effects sometimes following vaccination became too prominent to be poo-pooed away, attempts were made to explain them by referring them to the use of impure matter, or virus, conveying diseases from one person to another. Then epidemic and endemic influences temporarily prevailing in certain localities, where the bad results were numerous, were appealed to to explain them away. The bad results, however, increased in frequency and gravity—sometimes ending in death—until, to preserve it from falling into disuse, new expedients must be adopted to sustain it. Then came the explanation that the virus had, by frequent passages through the human body, become modified, and resort must be had to the original source of supply—the heifer. Now the fashion is to use the non-humanized matter, not in crusts, as formerly, but lymph from pustules on the udders of heifers, dried on ivory or quill points. Still the bad results continue to recur far too frequently, and so the number of persons who have had their faith in the harmlessness of vaccination seriously impaired continue to multiply.

The English medical journals contain many reports of very serious consequences occurring this season. Nor are these complaints confined to the British Islands. On the continent of Europe they are, if any thing, still more frequent. In England, just now, it is erysipelas, œdema, jaundice, etc., and both in England and on the continent more

or less mortality. This has been about our experience here, adding eruptions on the skin and chronic ulcers at and about points of insertion.

Until recently—and I mean within ten or fifteen years—it was not possible to answer the questions, "What is vaccination?" "What does it do, and how does it do it?" "How does it prevent small-pox?" as satisfactorily as it can be done now. But I believe—nay, I may say I know—that they can be answered with a near approach to accuracy now. That "vaccination is an antidote to small-pox," that "it is a preventive of small-pox," may once have satisfied inquirers, but does not now.

Various attempts have been made to explain its modus operandi in living bodies by referring it to some sort of fermentation, to the removal of matter susceptible of being modified by it, etc., but it was felt that they all fell short, and so the questions remained unanswered.

From the narrow basis which medical men have been contented to occupy in the study of life phenomena, it was not, and is not, possible to answer these or other like questions. Their mistake, past and present, has been, and still is, the consideration of the phenomena of life as apart from and opposed to the ordinary operations of nature around them. Nothing but catalogueing phenomena, and their subdivision in classifications, was possible from such a basis. Nothing of the relations of these various phenomena towards each other, and to other phenomena of nature, were possible, or ever made out.

But the dark cloud which has hitherto so effectually concealed from observation the inner workings of nature is slowly lifting, and some of the secrets of life have already been exposed to the light, and sooner or later all its workings will be explained.

Men of theology, men of science, students of nature, special students of life, have stood in the presence of one of life's

most important secrets all the time, but failed to see or perceive it. "Too fine for mortal ears," as one of our poets expresses it, thus:

> "Heard melodies are sweet, but those unheard
> Are sweeter," sang a poet dreamer well:
> And somewhere in Arabia lives a bird
> Whose little throat seems ever more to swell
> With music, while her tender golden tongue
> Throbs in its parted beak as if she sang,
> Though ne'er by sound the throbbing air is stirred,
> Save when on almond trees she folds her wings.
> Yet men do follow her, and cry, "She sings;
> Yea, always sings, had we but ears to hear."
> And when across the vacant morning clear
> Her rare and rapturous melody she flings,
> "Oh, God!" they cry, low listening 'neath her tree,
> "How ravishing sweet the unheard notes must be." *

"Too fine for mortal vision" have been "the forms of organic structure," the special combinations of matter adapted for and capable of performing the varied functions of complex animal existence, and so have been lost. The "forms of structure," which the material common to the earth of which they are composed, constitute the real secret of life. They open many doors admitting light into places hitherto shrouded in impenetrable darkness. Looking at them under powerful microscopes can not, and does not, throw light upon their functions. As well might the physical appearances only of the vaccine virus be studied to comprehend what it does in living bodies, introduced for the first time; or the physical appearances of materials used as medicines, studied to understand what they will do in living bodies. These are all "too fine for mental vision."

But to return from this digression to the dryer yet more instructive details of science. Observations and experiments, extending over many centuries of time, and by many

* H. B. Bostwick: Atlantic Monthly, December, 1876.

different persons, have conclusively established the following general principles concerning living beings and things. Slightly modified, they are applicable alike to inorganic and organic nature:

1st. Special "forms of structure" for each and every function performed by a living being or thing.

2d. Each special "form of structure" performs its natural or physiological function at the direct expense of its substance, as a candle in giving light; so much light, so much candle gone—its material decomposed, and returned to positions in inorganic nature. So, so much function performed by any tissue or viscus of a living body, so much structure less.

3d. Each special structure, in the act of decay and the performance of function, stores up the force in the requisite material for its own reproduction and perpetuation from new material.

4th. This special material, containing the force stored up in it for the renewal of the various structures from which it was derived from new material—the food eaten—is taken from the general débris of the wasted and wasting tissues, by the lymphatic system, and united with the ingoing stream of material, new and old, near the right auricle.

I believe that these general principles are as well established in organic life as the law of gravity, or that each living being or thing is due or owing to death.

With these well established principles in mind, a reply to the first question, "What is vaccination?" can be made so as to embody all the facts concerned and understood by most persons.

In the fewest possible words, the answer is: The artificial production of a fever process in the person vaccinated.

What does vaccination do?

Again, in the fewest possible words, we reply: Spoils more or less of existing tissue.

How does vaccination do this?

In the same manner as any other causes of fever operate—by modifying the molecular arrangement of the materials of structure, and, therefore, dynamic capacity.

The structures of the living human bodies have no permanence—none for any appreciable time. Whoever has read this paper from the commencement has not, at the moment he reads this line, the same body he had then. It does not change the actual facts concerned to say that the changes have been small. Men would not live to be threescore and ten if they were more rapid. The simple truth to realize is, that the human body has no permanence, alive or dead. The difference between an animate being and an inanimate thing is, that the one provides, within certain limits, for its own perpetuity; the other has no capacity for self-repair.

The sequence of events in vaccination and any other fever process, irrespective of type or external appearances, are exactly the same. The spoliation of tissue—its capacity to perform physiological or natural duty, more or less modified—must occur as a preliminary, and constitutes, in fact, the necessity for a fever process of any type or character.

Vaccine lymph, or matter, is material, storing up in its complex chemical structure force, or capacity, or power to modify, to a greater or lesser extent, the whole of the processes of nutrition or repair of a living body. It is worthy of special notice that vaccine matter, to produce the desired results—a fever process—must be inserted hypodermically. Introduced by the stomach or rectum, no such results follow as after insertion through the skin. The very first step towards vaccination is to damage the skin at a certain point by physical means—scratching, scraping, or cutting. On this abraded skin is placed the matter taken from a vaccine pustule on another person, or on a heifer, if bovine matter is to be used.

From the moment of contact the changes commence, "had

we eyes to see them." As they are "too fine for mortal vision," nothing can be known certainly until the phenomena acquire certain proportions, which bring them within the scope of our means of observation. At the end of one hundred hours, if humanized matter has been used, and from one to two hundred, if bovine, the changes, or modifications of structure at the point of insertion, are striking enough. An inflamed spot, surrounded by a zone of indurated or hardened tissue, exists. This gradually extends, when the general malaise—loss of dynamic capacity—becomes very marked. The lymph glands in the neighborhood share in the disturbance; while the temperature may be from 2 to 6° F. above natural. Appetite—demand for new material—much decreased, or modified, or gone entirely. Disposition, and mental and moral characteristics, much modified. In fact, all the phenomena of a fever process. At the end of two hundred hours, a larger or smaller space around the point of insertion may be greatly swollen and inflamed. The pustule, or pustules, have reached their full development, and from this, in straight or uncomplicated cases, the gravity of the phenomena decline. From the twelfth to twentieth day, the crusts formed at the point of insertion fall off, leaving a pit or excavation in the skin. New crusts form and fall off, or are detached by accident or design. From four to ten weeks elapse before the points of insertion return to the color of the surrounding surface.

Sometimes the actual healing process is long-delayed. From simple erythema to moist gangrene may be the condition of more or less structure surrounding the point of insertion, leaving an unhealable ulcer, or a large and unsightly cicatrix; or, as has been the case, death.

Examine the scar left at the point of insertion. The amount of physical violence used in the insertion of the "matter" does not account for the structural alterations of the skin found there. The "matter" inserted failing to

"take," the damage to structure then, incident to using it on an abraded surface, soon heals up, leaving no trace of any kind to show that the attempt had been made. Why this difference in the appearances of the surface after the "matter" failing or "taking?" A reply, based on the facts of a physical examination of the scar, would hardly fail to be truthful, and embody the real condition of things there and elsewhere in the body. The cicatrix—a name for the changed skin at the point of insertion—does duty as skin, just as cicatrices do from any cause elsewhere on the surface, but it is not natural skin. Now, it is very common—absolutely universal—to say that the sun rises in the morning and sets in the evening. It appears to do so. But does it do so in fact? If seeing with the natural eye is to be trusted to get at the truth it certainly does. But sight does not always detect fallacies. We may continue to speak, and our almanacs may continue to publish the time of the sun's rise and setting, in tables, yet most people know that the sun neither rises nor sets. Our saying so is a convenient fiction to express an apparent fact. We may call the changed skin left by the vaccine pustule a cicatrix, or scar, but it is also true that the structure of the skin has been changed, not so as to prevent it doing the duty of skin, but, nevertheless, greatly modified, when compared with the surrounding tissue.

Has the remainder of the body undergone no changes of structure—to the eye, assisted or unassisted? Apparently not. If it has not, if the whole of the tissues have not undergone more or less structural changes, vaccination would be a very useless proceeding, for it would not prevent the recurrence of small-pox, so called.

These structural changes, like many other phenomena of nature, are far "too fine for mortal vision."

What vaccination really does, therefore, is to produce, artificially, the necessity for a fever process, by means which more

or less modify the structural arrangement of the materials of structure, not so as to prevent the performance of natural function, or more or less apparently natural function, in the bodies of those subjected to its operation. In a large number of persons this process can not be repeated through life.

"How does it prevent small-pox?"

The materials, storing up the force, which, introduced into a living body, produce the train of phenomena called small-pox, produce structural changes in a manner so like that of vaccination that they admit of substitution, the one for the other. And the reason that vaccination is preferred, and sought after as a protection against small-pox, is that its phenomena are brought about with less violence, and, therefore, less risk to life.

It is seen, therefore, that both vaccination and small-pox terminate in a modification of the structural arrangement of the material of living bodies subjected to their processes, on which life momentarily depends, always and necessarily accompanied by more or less risk to life. But these changes are "too fine for mortal vision." It requires the same mind work to comprehend them that it takes to understand that the snow which to-night covers the face of the earth in our locality ascended, in the form of invisible vapor, from its surface, right past our eyes, though we could not, as we did not, see it.

Are all persons, irrespective of their age, health, and other conditions of life surrounding them, proper subjects to be made to pass through the phenomena of the artificially produced fever process called vaccination? I think not. And it seems to me that the apparently accidental bad results occasionally following indiscriminate vaccination fully sustain this conclusion.

Men, women, and children who reproduce their structures imperfectly, as in the so-called scrofulous condition; or with difficulty, as in so-called chronic dyspepsia, liver complaint,

etc.; or where there are chronic skin diseases, so called; or, in a word, persons of weakly constitution, or in the decline of life, it seems to me, should be vaccinated only under the press of urgent necessity. Better far that such persons take the risks of small-pox, except only when fully exposed to contagion through life, rather than have the certainty of vaccination, with its possible sequelæ.

I am prompted to make these remarks partly in consequence of the presence of some small-pox cases in our city at this time; partly because I have sought a suitable opportunity to state the results of my observations for a long period, and partly from the exercise of authority on the part of the Board of Education in ordering all children in any way connected with them to be vaccinated or re-vaccinated, as the case may be, or be excluded from further attendance at school. And all this without any reference to their condition of health or possible bad consequences. The teachers in the several school buildings examine the arms of pupils, and decide whether they have been properly vaccinated or not, generally winding up with sending them all away to be vaccinated before returning to school.

I could give, did time permit, many clinical cases, illustrative of serious results following vaccination. But these have now become so common that they are well known to the profession and people. I have, during my life, done my full share of improper vaccination; and may do some yet, but never without informing the parents (if children are to be vaccinated) or others who ask for it. And this very often against pecuniary interest.

I do not desire to convey to you the impression that I am opposed to vaccination; far from it. On the contrary, I am a firm believer in its propriety and necessity in a large number of cases. But I am also convinced that weakly children and youth, and most persons past fifty years of age, have no business with it, only as the smaller of two evils,

viz., a very strong probability of small-pox infection, or the certainty of vaccination.

The various expedients resorted to to check the declining confidence of the people in its propriety in every case, and reinstate it in full confidence, must necessarily fail. But in the end such measures will certainly be adopted as will secure its good results, and reduce its evil consequences to their minimum.

I here purposely confine my observations to the artificial fever process brought about by vaccination, leaving out of consideration fever processes brought about by other means, as innoculation with small-pox virus, blisters, and by some remedial agencies. I have recently seen an artificial fever process brought about by calomel and ipecac, with some very surprising results, in a case of chronic inebriation.

I offer the following conclusions, at which I have arrived after many years' observation and study of the subject, for consideration:

1st. That vaccination—the artificial production of a fever process in human bodies, resulting in modifications of the structural arragements of its materials, and because of this fact—must always be attended with more or less risk to life and health to some persons.

2d. That weakly children and youth, and adults in the decline of life, are not proper subjects in whom to produce an artificial fever process, resulting in changing or modifying the structural arrangement of their tissues, for any other reasons than those of the most imperative necessity.

3d. That the authority now exercised by boards of education, school superintendents and teachers, in compelling vaccination and re-vaccination, at each recurring small-pox scare, without competent professional supervision and assistance, is well calculated to bring increasing discredit on a really useful and necessary sanitary measure.

ORIGINAL LECTURES.

ART. VI.—*On the Legal Responsibilities of Medical Men.* Lectures Delivered in the University Medical College, New York. By STEPHEN SMITH, M.D., Surgeon to Bellevue Hospital, New York.

[Concluded from Vol. I., p. 152.]

Let us finally consider your relation to the patient at the termination of the case. The question which will most interest you will be the collection of your fees. It may appear to be a matter of little importance how you make out your bill, but the courts have decided otherwise. Your charges must be specific and in detail to conform to legal decisions. A general charge of a gross sum has been rejected. The amount charged is subject to the following rules: If there is a fee bill adopted by a medical society, the members are bound by such rate or scale of charges. The adoption of such a bill, and especially its publication, gives it the character of a contract with the public. If there is no fee bill you are allowed to charge a *reasonable* compensation. The reasonableness of the charge will depend upon your rank or standing in your profession, the character of the services rendered, and the ability of the patient to pay. A physician who has gained such position that his services are especially sought for is entitled to a higher grade of compensation than the ordinary practitioner. It is held that a medical man of great eminence may be considered reasonably entitled to a larger recompense than one who has not equal practice, after it has become publicly understood that he expects a larger fee, inasmuch as the party applying to him must be taken to have employed him with a knowledge of this circumstance. A physician of eminence is also held to a higher accountability, for he is expected to exhibit extraordinary skill. It is a rule of law that if there has been no benefit derived from the service, there shall be no

pay; but this rule does not apply to the service of the physician. The medical practitioner does not guarantee a cure, nor even benefit; he simply assumes to do all that can ordinarily be done for the given case under existing circumstances. You can place your own estimate upon the value of your services, but the estimate must be reasonable and within the limits of a prevailing fee bill, or of a judicious regard for all the conditions under which the service is rendered. You may finally take into account the ability of your patient to pay—the poor can not pay the fees of the rich, and practitioners are bound to discriminate. If a physician of standing should have one uniform rate of charges, the poor might be deprived of his services. But because a patient is wealthy you are not thereby entitled to make extortionate charges; your compensation must be reasonable, due regard being had to the nature of the services, your rank, and the patient's pecuniary responsibility. But the rendering of your bill may develop a new phase of the case. The patient may refuse the bill on the ground, 1st. That you are not a qualified physician. If you reside in a State which has no statutory enactments requiring special qualifications, his charge is groundless, for every man may practice medicine and collect fees; but if there is a law requiring that every person exercising the duties of physician shall be a graduate of a chartered medical college, your diploma will disprove the charge. 2d. That you were negligent. This charge, as I have intimated, may take many forms. It may be alleged that you do not visit your patient sufficiently often. This charge must be determined by the judgment of competent physicians on a full narration of all the circumstances and conditions of the case. You may be very attentive to every indication of the case, but a single one, which you neglect. If that fact can be proven it is fatal to the entire attendance, for the contract is an entire one. You may have made a false diagnosis when proper

care would have directed you rightly. An error in diagnosis is followed by errors of treatment, and a train of unfortunate consequences may thus follow of the most disastrous nature. If a charge of this kind is made it must be proven that the error was due to negligence, and not to defective judgment, for the physician is not blamable who commits an error of judgment. If it were due to negligence, there was not that ordinary knowledge exhibited which the profession of that particular locality possessed. 3d. That you did not follow prescribed rules, or, in other words, that you experimented, and, as a consequence, the patient suffered damage from your treatment. It has long been regarded as very obstructive to the progress of practical surgery that the practitioner can not depart from established rules without incurring the liability to the charge of malpractice. And yet the law holds the surgeon only to that degree of responsibility which protects society from ignorant pretenders. In a recent case, in which this question was thoroughly discussed, the judge remarked, in substance: Much was said on the argument as to the right of the surgeon to exercise his own judgment as to the mode of treatment he will adopt in the case of a wound or of a disease which he is called upon to treat; that neither the rules prescribed by witness, nor those acted upon by other physicians, can apply to every case; and hence latitude must be allowed for the application of remedies which the attending physician or surgeon has found to be beneficial. If this is not allowed, the argument is, that all progress in the practice of surgery or physic must cease, and the afflicted lose altogether the benefits of experience and of remedies that science furnishes for the alleviation of suffering. It must be conceded that if a surgeon is bound, at the peril of being liable for malpractice, to follow the modes of treatment which writers and practitioners have prescribed, the patient may lose the benefits of recent improvements in the treatment of diseases, or discoveries in science, by which

new remedies have been brought into use. But this danger is more apparent than real. Some standard by which to determine the propriety of treatment must be adopted, otherwise experiment must take the place of skill and the reckless experimentalist the place of the educated, experienced practitioner. When the case is one as to which a system of treatment has been followed for a long time, there should be no departure from it unless the surgeon who does it is prepared to take the risk of establishing, by his success, the propriety and safety of his experiment. The rule protects the community against reckless experiments, while it admits the adoption of new remedies and modes of treatment only when their benefits have been demonstrated, or where, from the necessity of the case, the surgeon or physician must be left to the exercise of his own skill and experience. These remarks place in clear light the duties and obligations of the practitioner who departs from established rules. 4th. Finally, he may make the general charge of malpractice, alleging want of skill, negligence, etc., in redundant legal phraseology. The best protection against such charges is, first, scrupulous attention to all details of the case; second, the advice and coöperation of a neighboring practitioner, whenever there is much doubt as to the course to be pursued. The practice of making daily notes of every important case can not be too strongly urged. In these notes you should specify every essential fact, with a statement of the persons present each time. Many physicians have, by the aid of such memoranda, disproved the prejudicial evidence of bystanders. There ought to be more friendly advice and coöperation among physicians living in the same localities. Every general practitioner in the country, sooner or later, will feel himself in need of that support and countenance which his neighbor alone can give. If at the outset of a fracture two physicians consult and agree as to the plan to be pursued, and afterward occasionally confer as to the

progress of the case, their joint testimony proves impregnable in court.

The conclusions which I wish you to remember are, that the civil obligation now requires—

1. That degree of knowledge of your profession which will enable you to treat each case which you undertake understandingly and safely.

2. That your practice must correspond with the latest improvements in that branch in which any case falls.

3. That your knowledge must be diligently and skillfully applied throughout the entire case.

CLINICAL RECORDS.

ART. VII.—*Two Cases of Foreign Body in the Rectum.* By J. M. WEAVER, M.D., Surgeon to the National Home for Disabled Volunteer Soldiers at Dayton, Ohio.

At the last meeting of the Ohio State Medical Society the members present were agreeably entertained by Prof. C. S. Muscroft, of Cincinnati, who read a paper entitled "Foreign Bodies in the Rectum." The subject brought to my mind a case or two occurring in my own practice, which I give you.

During the spring of 1870 I was called to see a little boy, aged, perhaps, three years, who had been under the care of a neighboring physician for some time, suffering with alleged constipation of bowels. The mother stated that the little fellow would have a passage but once in three or four days, attended with much straining and violent effort, and resulting in the discharge of but a small quantity of fæcal matter. He was quite feverish and fretful, with a full abdomen and foul-looking tongue. During my visit he manifested a desire to have a movement of the bowels, and in watching his endeavors I observed that during the violent straining the rectum and perinæum were much depressed. Introducing

my finger into the former, it came in contact with a firm, hard substance. Putting the child upon its back, and encouraging it to still press down, I introduced a small pair of dressing forceps, and removed a *metallic pantaloons button*, which lay transversely above the sphincter. The immense quantity of fæcal matter that followed its withdrawal showed that constipation was at an end, and the services of a doctor no longer required.

The second case was one of more gravity and importance, but resulted equally as well. In October, 1873, I was called in consultation to see a young man in the country, who, in the evening, about twilight, had gone up into the loft of the barn for the purpose of throwing down hay for the feeding of his stock. Some ten or twelve feet below him was another mow of hay, in which there was a long-handled pitch-fork sticking straight up. In order to facilitate proceedings, he concluded to jump down to the lower mow. Owing to the darkness the hay-fork was unobserved, and in jumping he alighted immediately upon it; the end of the handle entered the anus, rupturing the sphincter, ruptured the posterior wall of the rectum, struck against the upper portion of the sacrum, and lodged to the left of the lower lumbar vertebræ, between that and the left ilium, the shaft of the handle breaking off an inch external to sphincter ani. This was the case as we found it: a man with *eight* inches of a fork handle within the pelvis, with only one inch of it remaining external upon which to seize to attempt extraction. Not only this, but the upper end of the handle being of greater diameter than the main portion, and wedged in tightly in the manner spoken of, caused it to be perfectly immovable. Of course the question was the removal of the foreign substance. The patient fully under the influence of an anæsthetic, a firm hold was taken and strong traction made, which failed to remove. A long pair of claw-shaped forceps was brought into requisition; this failed also. *Two men* tried

their united strength, and still without success. It was only by passing the hand into the torn rectum, and making a rotary motion, together with a long and strong pull, that the handle was removed. This man recovered fully from the injury. An abscess at the upper portion of the sacrum, where the head of the handle pressed the soft parts, was opened externally, and discharged quite freely for a few days, and then healed. The wound was kept well open below, and carefully washed out with carbolic acid. The bowels were confined with opiates for ten days, and then allowed to move naturally. In a month the patient was walking about, and in a short time thereafter was entirely well.

ART. VIII.—*Case of Biliary Calculi, Duodenitis, and Pancreatitis. Death and Autopsy.* By TOM. O. EDWARDS, M.D., Wheeling, West Virginia. Reported to the Muskingum County Medical Society, at its session in the City of Zanesville, Ohio, December 14, 1876.

Col. Allison, age 56; a lawyer; very corpulent; a large eater; did not drink; had not at any time taken any liquor; did not take much exercise; has been increasing in weight slowly for several years; was, on October 24th, taken suddenly with a sharp colic; could not locate the pain, which was severe and exhausting; the bowels were torpid; otherwise was in apparent good health. These symptoms yielded readily to a hypoderm. of morphia, one-sixth grain, and enemas of warm water.

Five days after he became jaundiced to a marked degree. This remained for three weeks, gradually disappearing without any treatment, except an occasional laxative He was enabled to resume his business for a short time. With a returning appetite he was led into an error in eating that was followed by an attack of indigestion, which again compelled him to remain at home.

Soon great irritability of the stomach set in; vomiting of half-digested matter, mixed with bile; was persistent, and failed to be controlled by pepsin, bismuth, lactopeptine, cerium, calomel, morphia, lime-water, etc. From an ounce to a pint of bilious matter would be ejected at intervals in twenty-four hours; great thirst was present, and the water drank would be returned in a few moments, stained with bile. The urine reduced in quantity, heavily laden with urates; no albumen at any time detected; pulse ranging from eighty to ninety, fair volume; temperature only once above 100°, then only a degree temporarily; spirits of patient much depressed.

On physical exploration of abdomen, which was difficult, he being very fleshy, no enlargement of any organ could be detected; no tenderness, except in the region of the gall-bladder and duodenum. Sub-acute duodenitis, and catarrh of gall-bladder and duct, diagnosed, with a suspicion of fatty liver.

Sunday, December 3d. The patient gave evidence of a failure of life powers; a weak, rapid pulse; leaking of the skin; chillings, and a tendency toward stupor. Stimulants resorted to with no effect.

Monday, December 4th, the patient was no better. A consultation was called for. Dr. Hildreth came to our assistance, and confirmed our diagnosis. A blister was applied; stimulants diligently given, but with no effect; the powers of absorption seemed to be suspended. He gradually sank, and died on Tuesday, December 5, 1876.

Post mortem December 5, 1876, at 4 P.M., fifteen hours after death. Body well preserved; no emaciation; rigor mortis well marked; on section, the layer of adipose tissue was found to be about two inches in thickness all over abdomen. On opening this cavity the omentum was found to be heavily loaded with fat; the stomach was of an unusually large size; the liver did not present any marked extension of its nor-

mal boundaries, extending perhaps a little further to the left than normal; but, altogether, not strikingly enlarged, although possessing other characteristics of fatty degeneration.

The gall-bladder was very small, its walls thickened, the interior surface covered with calcareous plates, and partially filled with gall-stones; the ducts were pervious; the liver was a pale yellow color, cutting easily, leaving the knife blade greasy; its substance was soft, tearing easily. The interior of the duodenum was markedly congested, of a bright scarlet color a considerable distance above and below the opening of the common duct. This congestion did not extend to the stomach, the coats of which presented nothing abnormal.

At this point a remarkable condition was found. The pancreas was adherent to the duodenum, to the entire lower boundary of the stomach and the upper surface of the transverse colon, to the spleen and the left kidney. It was much enlarged, and appeared to be a cyst full of a soft, pulpy mass, its surface marked by numerous spots of a dark blue and black color, from a mere speck in size to a spot an inch in diameter. This color was more noticeable at its stomachic adhesion.

In attempting to remove this cyst a rupture of it occurred, and a quantity of dark-colored, offensive fluid flowed out, leaving as a residue a pulpy, ill-smelling mass.

The spleen and kidneys were much enlarged, very friable, and a pale-yellow color.

The lungs were apparently normal; the heart had undergone almost complete fatty degeneration, more so than any example, except one, that I have ever encountered in over one hundred and ninety autopsies. And I may say here that this is the only diseased pancreas I have ever met with.

In the light of the above facts, I think it is safe to conclude that the first attack was the passage of a gall-stone;

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the subsequent jaundice being due to an obstruction of the common duct by another stone, or inflammation caused by the first.

The irritable stomach was probably due to its proximity, or, in fact, its adhesion to the diseased pancreas; and may this not satisfactorily account for the duodenitis as well?

The gall-bladder had evidently been subject to inflammatory action for some time; its walls were much thickened; the calcareous plates were probably precipitated cholesterine.

If this life had not terminated as it did, it is highly probable it would have ended suddenly at no very distant day, by a rupture of the heart wall, or a failure of its power.

The most important factor in this death was the pathological condition of the pancreas; and, I confess, the most unexpected and unlooked for lesion.

The interest that attaches to the diseased anatomy of the pancreas is the interest of obscurity, the interest of diagnosis, and the interest of its situation; it is, in fact, from the situation of this organ that the importance and obscurity of its lesions result. Close to the stomach, spleen, colon, kidneys, duodenum, liver, aorta, vene cava, and cœliac axis, it is in relation to the great vascular, nervous, digestive, and absorbent centers of the abdomen, and may affect them secondarily, be affected by them, or furnish a source of doubt whether it be it, or they, or both, that are at fault; and while it is thus placed at so important a point, medically its situation almost precludes it from the advantages of physical diagnosis. Niemeyer says not a word about it. Flint dismisses it with a page, and says, practically, diagnosis positive is not possible. Wood says: "It is scarcely ever possible to distinguish its diseases with certainty." "The secondary phenomena often completely mask the symptoms, so that it can not be detected, and often escapes suspicion." The records of the post mortem appearances of the pancreas are very few.

From an exhaustive article on this subject by Mr. Hyde Salter, of London, I glean but a few cases of inflammatory lesions, nearly all of which ended in gangrene. In an article by Dr. Pemberton, of England, I find the following: "Ulceration is a very frequent termination of inflammation of the pancreas, and from the small degree of *sensibility* with which this organ is endowed, the destruction may go on a great way without *pain*, or any symptom pointing to it."

This pancreas was gangrenous. How long the antecedent inflammation had been going on I do not know, but, judging from its extensive adhesion, I should say for some time; and as physiology teaches, the function of this organ is in close relation to the fat-forming or absorbing powers. Here is a case almost directly opposed to this theory, for this man was very fat; no emaciation during his sickness, and fatty transformations of organs going on for some time.

DISCUSSION OF THE CASE.

Dr. Holston remarked that the case was so well reported that it left very little room to say any thing about it.

Dr. McElroy said that he thought the case a very interesting one, from which very important lessons could be learned. The fact was, not that Col. Allison had duodenitis and pancreatitis, but that he had lost normal forms of structure in pretty much all that was contained in the abdominal cavity. He should incline to the opinion that the real seat of the trouble was in the lymphatic system, as it was that which supplied the necessary force for the reconstruction of wasting tissues in the performance of function. Possibly it was in the brain and spinal chord primarily. At all events, the post mortem was not such as science now demanded. It resembled too much the Jewish butcher's examination of the carcasses of animals slaughtered for food.

Dr. Larzelere said the case was interesting in many ways. Thinks that this gentleman was an easy liver—had a good appetite, gratified it, and did not take much exercise. What

are gall-stones? Why, cholesterine. And what is cholesterine? Why, hardened or crystallized effete matter, and retained in the body, instead of passing out of it as it was formed. I think the condition of the pancreas, as disclosed by the autopsy, a recent affair. Thinks he fell a victim to living in violation of physiological laws. Did not take the physical exercise which was required to keep his body pure.

Dr. Gallagly differed from the President. It seemed to him that the gentleman's death was purely accidental. Thinks that it was due to sudden stoppage of the gall-duct, for, in two days after his colic he is jaundiced, and the bile is reabsorbed, and was the immediate cause of the first of the train of phenomena which ended in his death.

Dr. Larzelere thinks that Col. Allison did not present the condition of physiological life in any of his structures, but he did present all the essential conditions for fatty substitutions—to the formation of gall-stones—before death. Does not like the words "fatty degeneration." Authorities at the present day use the word substitution, which exactly presents the facts, viz., the substitution of tissue of lower dynamic capacities for that of higher, at important points in the body. Does not think the conditions of structure disclosed at the post mortem were brought about in a short time; probably one, two, or more years.

Dr. McElroy read a report from the London Lancet of recent experiments in Europe of tying the gall-duct. It was found that when the duct was obliterated by ligature, fatty substitutions and other structural changes could be noticed in the liver in twelve hours. Thinks that the phenomena presented at the autopsy of Colonel Allison all recent, and dependent on the obstruction of the gall-duct; though, as he had said before, the nervous apparatus and lymphatic system were in fault primarily.

Dr. Holden thinks, like one of the members who has already spoken, that there is not much left on the subject not embodied in the report of Dr. Edwards. It gives, 1st, a his-

tory; 2d, a post mortem. The patient had a fit of colic; was relieved; then had jaundice; got well. From some unexplained cause indigestion comes on, followed by rapid sinking and death. Thinks the fatty degeneration not recent. Nobody could have cured him. Overloading stomach brought on inflammation, which terminated in death.

Dr. Nye has tried to analyze all that had been said to find something new or useful. Thinks that what was read from the Lancet the only new thing. Would the members' like to know how Col. Allison onght to have lived, so that he would not have died of that disease? Why, earn his living by the sweat of his brow; eat plain food; use cold water; by baths, etc. So living, he would not, in all probability, have had gall-stones. But he lived otherwise, and did not take exercise enough.

Dr. Holston remarked that it was by studying such cases as that reported by Dr. Edwards that we can know when we have such cases to deal with in actual practice.

Dr. Larzelere thinks it very important and satisfactory to be able to state the exact condition of things in patients to friends.

Dr. Holston moved that the thanks of the Society be tendered Dr. Edwards for his paper; which was adopted, and the paper received.

CORRESPONDENCE.

VIENNA, AUSTRIA, November, 1876.

DEAR DOCTOR: In accordance with your kind request, I will attempt, in a few letters, to give a description of medical matters in Vienna.

The University buildings, proper, are situated in the center of the city, jammed in between an old church on one

side and old and ugly houses on the other, at the end of a narrow alley, left only as an approach to these buildings. Here the philosophical and juristical faculties hold their lectures.

Medical lectures are held at the Zootomic Institute; the Allgemeine Krankenhaus, with which the Anatomic-pathologic and the Pathologic-chemic Institutes are connected; the Schola Anatomica et Chirurgica, also connected with the Allgemeine Krankenhaus; the Rudolf's Stiftung; the Policlinic, and at several charitable institutions.

The Zootomic Institute contains the physiological laboratories and a few dissecting rooms, together with the University fencing school. It is a large, old, two-story building, formerly used as a gun factory, and still called "Die Alte Gewher Fabrik." This is a rough shell, containing the golden fruit, and a very rough shell it is, too. The lectures on physiology, pharmacology, history of medicine, etc., are held at this place, while the clinics and lectures for the more advanced students are chiefly held at the Allgemeine Krankenhaus, which deserves a more extended description.

The K. K. Allgemeine Krankenhaus, the main city hospital of Vienna, is said to be the largest hospital in Europe. The buildings occupied by it are of three dates of construction. The hospital was opened in 1784, in a building formerly used as an infirmary, and founded so early as 1693, though not fully completed until 1769. It was then adapted to contain two thousand beds. The large circular building, the former lunatic asylum, now used as a store-house and residences for the attachés, also dates from this time. The first addition was made in the years 1832–34, at a cost of $200,000. The last important addition was made by the building of the magnificent dead-house, containing the Pathologic, Anatomic, and Chemic Institutes and Museums, which were opened in 1862. The really poor are admitted to the hospital free of charge, while those who can afford it

are required to pay a small charge. An ambulance is also connected with the hospital, and medicines are furnished to the out-door patients free of charge.

The foundling and lying-in hospitals, together with the lunatic asylum, were formerly connected with the Krankenhaus, but were, in 1865, transferred to another board, and the buildings occupied by them were converted to the uses of a general hospital.

This hospital, from the first, was made use of for the purposes of medical and surgical instruction. There are, at present, ten clinics held at the hospital, for the use of which there are forty sick-rooms, containing seven hundred and eighty-four beds. Besides these, there are eight special clinics, having the advantages of sixteen rooms, with three hundred and fifty beds. On account of the establishing of so many clinics, many rooms originally intended for the use of the sick were converted into lecture-rooms. It is owing to this circumstance that, notwithstanding the various large additions, the hospital still contains only the same number of beds (two thousand) with which it opened. The material at the Krankenhaus is also used by a number of physicians, not directly connected with the institution, for private courses of lectures. In 1873 not less than sixty-one persons instructed at the institution. It follows that this must be called a public hospital, serving mainly the purposes of instruction, in which persons of both sexes, from five years upwards, are admitted, while children under that age are received at the St. Anna Hospital, an institution also under the control of the Krankenhaus.

More or less closely connected with the Krankenhaus are the hospital in Wieden, a sub-district of Vienna, and the Rudolf's Stiftung, the one containing six hundred, the other eight hundred and sixty beds.

The immense buildings of the Krankenhaus are so constructed as to inclose thirteen large court-yards, nearly all

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planted with trees and shrubbery, decorated with fountains and statuary, and converted into park-like gardens, which, with the buildings, occupy an area of 961,848 square feet, of which 228,600 are covered by buildings and 733,248 by the yards and gardens.

The Krankenhaus is situated near the heart of the city, but the disadvantages arising from this are so nearly neutralized by the extensive growth of trees that, according to ozonometric observations, the air does not leave any thing to be wished for as regards purity.

The old part of the building is two stories in height, the newer part thr.e stories, and both are not only not pretty, but exceedingly plain, not to say ugly structures. The newest part is a very fine building, two stories in height, and well adapted for the purposes it is intended to serve.

The hospital contains one hundred rooms of different sizes for the use of the sick, exclusive of lecture-rooms, rooms for assistants, and so on. The height of the rooms is from twelve to thirteen feet, and the space for each bed is about 1250 cubic feet.

The medical staff numbers twelve division and eleven clinical supervising physicians, forty regular physicians and sixteen assistants, the director of Pathologic-anatomic Institute, with two assistants, and the director of the Pathologic-chemic Institute, with one assistant—eighty-four in toto—receiving from two hundred dollars, with board and lodging, to one thousand dollars per annum. There are also one hundred post-graduates in general and sixteen in special operative training.

I would like to give a description of the interior arrangements, but as this letter is already of some length, I will forbear for the present.

Respectfully, A. M. B.

NEW YORK, January 16, 1877.

DEAR DOCTOR: Through some oversight or other, an interesting item which I intended to bring to the notice of the profession in this country has been omitted in the last issue of your esteemed Journal. I refer to that part of my communication which contained a short mention of a new method of treating tuberculosis of the lungs in its advanced stages by the injection of a one per cent. solution of carbolic acid into the lung tissue, through the chest walls, by means of a pravax hypodermic syringe. To my friend and former classmate, Dr. J. Schnitzler, of the Vienna University, belongs the credit of having introduced this method into practice with marked benefit to his patients. He injects of the solution named one-half a syringeful every day or every other day, and reports, thus far, of being pleased with the results obtained. I will enlarge upon this subject on some future occasion. I wish gentlemen having such cases under treatment would give this method a trial, and let us know their experience with it. In a disease like tuberculosis of the lungs, which carries off annually hecatombs of victims, nothing should be left untried which promises, even in a small degree, to be of advantage to the unfortunate sufferers thus affected. Dr. Schnitzler was formerly first assistant to the lamented Professor Oppolzer, and is at present lecturer on the diseases of the chest and the throat at the University mentioned; and, at the same time, he is the able editor of the Wiener Medizinische Presse and the Vienna Clinic. The professional reputation of this excellent author, lecturer, and editor is such that whatever he states he does after careful examination, deliberation, and experience. It is therefore my firm conviction that the widest publicity should be given to his new method of treating one of the most intractable diseases known in medical practice, being based upon the observation and honest statement of an acknowledged medical authority. Another point of great interest—proving

the efficacy of the disinfectant treatment of diseases depending on certain germs floating in the atmosphere, and capable of developing only under certain climatic influences, and coming in contact with the proper soil favorable to their development, as fully proved, and only doubted to-day by the less advanced and often unsophisticated youths in the profession—is the communication made by one of whom we, as Americans, are proud, on account of his triumphant innovations and brilliant achievements in the art of gynaccology, and his justly acquired world-wide reputation as a careful observer. (I mean Dr. J. Marion Sims, of this city, who published his experience with Lister's antiseptic method in ovariotomy in the New York Medical Record of December 9, 1876.) This eminent surgeon says: "Professor Lister's late visit to this country seems to have given a new impulse to *antiseptic* surgery. Van Buren has adopted it with success, and is lecturing on it to his class at Bellevue with great enthusiasm. Stephen Smith has also adopted it with the same success, and is teaching it most earnestly to his class at the University, and other surgeons *must* take it up." Dr. Saas kindly consented to bring his apparatus and apply the carbolic spray to Dr. Sims's case for ovariotomy. Professor Thomas, of New York, and Dr. Atlee, of Philadelphia, had both seen the case, and advised the patient to wait until the tumor (ovarian cyst) became so large that it would cause her to vomit her food and began to emaciate. The tumor weighed at that time ten pounds; but she being very anxious to have the operation performed immediately by Dr. S., it was done on November 23d last. "I am particular," says Dr. Sims, "in fixing the date, because I believe it inaugurates a new departure in ovariotomy." Dr. Sims, with his usual painstaking accuracy, goes on to relate the mode of operation under the carbolic spray, which lasted forty minutes, and could have been continued two hours if necessary. The pedicle was very short, and at least three inches broad. The

external incision was closed by sutures, and a carbolized dressing applied. The pulse never rose above 90, nor the temperature over 101° Fahrenheit. Convalescence was fully assured in forty-eight hours, and the patient is now quite well. The tumor weighed fifteen pounds. Dr. Sims concludes by saying: "I urge the adoption of Lister's antiseptic method in ovariotomy, which I am sure will prove as valuable in this operation as it has been in general surgery. Dr. Sass's apparatus answered admirably."

Here, Mr. Editor, we have the testimony of some of the ablest men in our profession on the two continents of Europe and America—Schintzler, of Vienna, and Sims, Van Buren, and Stephen Smith, of New York, using carbonic acid with such remarkable results in two of the most formidable diseases known in medicine and surgery. Does this not prove the correctness of the *germ theory* of many diseases to which flesh is heir? Does it not prove the correctness of my disapprobation of the action of the surgical section of the International Medical Congress, held in Philadelphia September last, regarding Lister's method of treating wounds, expressed in my letter to you which appeared in the October number of the Journal? Antiseptic surgery has already stood the test of time. It has the approval and is the favorite method of treatment of the leading men in the profession in Europe. Thiersch, Volkmann, Billroth, Hofmokel, Dumreicher, and Esmarch are among those who claim that it is the only safe method of treating wounds of any magnitude. I am glad to see that the same view of its efficacy is held by leading men in our country, and I hope it will soon be the practice of all. It would be waste of time and of valuable space in your journal to illustrate by the enumeration of single cases the great value of Lister's method of treating wounds. I could myself cite a very considerable number of cases—desperate as they were—which have been successfully treated, in a comparatively short space of time, by me and my col.

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leagues in the out-door department of the Mount Sinai Hospital and the Eastern Dispensary in this city. But every medical journal contains accounts corroborating my statement in regard to the high value of Lister's method, and I consider it superfluous to say another word about it.

The New York Pathological Society presents a larger field for study and useful information to the medical student than perhaps any similar society in the country; its meetings, therefore, are always interesting, and its proceedings deserve the widest publicity. I shall attend its meetings regularly, unless otherwise engaged, and give you a sketch of the points that in my judgment may be of interest to the readers of your journal.

November 8, 1876. No. 1. Dr. Sands presented a mammary tumor. The growth had existed three years before removal. It commenced in the shape of a small swelling, grew slowly until six months previous to the operation, when it grew rapidly and was very painful. The tumor was not adherent to the underlying tissues, and fluctuated when pressed upon. The nipple was not retracted. The Doctor thought at first it was a chronic abscess; a hypodermic puncture was made, and a reddish, clear liquid was withdrawn. The lymph-glands were not enlarged, and there was no cachexia. The tumor was tapped and four ounces of liquid were withdrawn; the remaining hard portion was extirpated. The mass removed showed a cheesy degeneration. There was no cyst-wall. Formerly such tumors were called encephaloid. Dr. S. pronounced it an adenoma, with cystic degeneration. The specimen was referred to the Committee on Microscopy.

No. 2. Dr. B. Robinson presented small parts of an epithelioma removed from the larynx of a patient thirty-one years old. The tumor grew eighteen months before removal.

No. 3. Aneurisms of the arch of the aorta, with erosions of the sternum, clavicle, and first rib. The specimen contained bone in the sac, and was interesting on this account as a rare

pathological specimen. Dr. Janeway stated that there were several such specimens in the Bellevue Hospital Museum. Drs. Dickson and Packard have reported similar cases.

No. 4. Cirrhosis of liver, by Dr. Loomis, from a patient thirty-four years old. The disease lasted four years, when it killed the patient. Vomiting, fever occurring in paroxysms every three or four days, with decided chill, and emaciation, ascites, nasal and bronchial catarrh, were the accompanying symptoms during life, for which the appropriate treatment had been resorted to; but although temporary relief by tapping and tonics was obtained, still the patient died finally from exhaustion.

Dr. Sayre exhibited a button removed from the nose by means of Mr. Durham's forceps, of Guy's Hospital, London. Dr. Sell related cases proving the great difficulty of removing foreign bodies from the nasal cavity, and hoped the instrument would prove useful in the future as it had been in Dr. Sayre's case.

At the annual meeting of the New York County Medical Society, Dr. H. B. Sands in the chair, an important resolution was passed, which should be adopted by all the medical societies in the land. I have urged the introduction of the metric system of weights and measures, in a letter published in the Boston Medical and Surgical Journal, which I wrote from Vienna, Austria, in 1874. The resolution above referred to and my recommendation were to the effect that physicians should use the metric system of weights and measures in their prescriptions. Italy, Germany, and Austria have made its use a law; ounce, drachm, scruple, and grain are denominations of the past in those countries. A few days ago I noticed in the New York Herald that the Secretary of the United States Treasury recommends its introduction in all the United States custom-houses. It requires, therefore, I think, no argument on my part to prove its simplicity and usefulness. In our monetary system we

have the decimal system. This being most convenient and practical, I hope it will soon be used also in writing our prescriptions on this continent. Those using the metric system will be gratified for having made the change for the better.

Very truly and respectfully, yours,

DR. RUDOLF TAUSZKY.

The American Medical Bi-Weekly. E. S. GAILLARD, Louisville, Kentucky.

This is the changed form of the American Medical Weekly, and we think the change is decidedly one for the better. In its present form it is a very interesting and attractive journal, one of the best of its class in the whole country. Its editor evidently understands how to conduct an attractive and successful periodical, and gives a brightness and variety to his pages which make it a welcome visitor both to the busy and the studious practitioner.

If it were not for one thing our praise would be unqualified, but this can never be while Dr. Gaillard clings to the abomination of pink paper, for which he seems to have an unaccountable craze. This is a sad eyesore in an otherwise well got-up, as well as well conducted periodical, which we yet hope to see abolished.

EDITORIAL.

The recent appointment by the trustees of the Asylum for the Insane, at Athens, Ohio, to the position of Medical Superintendent, of a person not a resident of the State of Ohio, and recently connected with a so-called surgical institute of doubtful character at Indianapolis, has given rise to a great deal of very warm discussion, both in medical circles and in the public prints. It is claimed that the appointment is illegal, and therefore null and void, and we believe that steps have been taken to have this aspect of the question brought before the proper legal tribunals for settlement. On this point, having no knowledge, we can have no opinion, and therefore shall say nothing—it is for the courts to decide. It is furthermore said that the appointment of this man, so recently one of the managers of an ill-odored, pseudo-medical speculation, is a deliberate and intentional insult to the regular medical profession. We very much doubt whether this allegation can be sustained. Most probably these trustees had not the remotest idea that such an interpretation could be put upon their action. They, like the rest of the world, are most likely utterly indifferent to the issues between the regular profession and those whom we denominate outsiders and irregulars.

They can not see the difference, and believing that they never will see it as we do, we shall not enter the lists in a Quixotic attempt to enlighten them, but leave them to the blindness of eyes and hardness of heart which is their natural condition. The most charitable, as well as, it seems to us, the most natural, explanation of their choice is that they were influenced by purely personal motives.

Enough of their number were interested in Dr. Wilson—we believe that is the fortunate applicant's name—to out-vote or over-influence the rest, who cared little about the matter, one way or other; and so the appointment was secured.

This supposition, which we presume to be in the main correct, and to do injustice to no one, is sufficient, without impugning any one's motives or conduct, to condemn, not these particular trustees, but the whole system of appointment and medical management of our insane asylums.

In the first place, the remuneration of the medical superintendent and his assistants is ridiculously and penuriously low, inadequate, and ruinous to the true interests of these institutions, as well as a disgrace to the great and powerful commonwealth of Ohio.

An enormous asylum has just been finished near this city of Columbus, and a medical superintendent appointed. Let us ask what qualifications ought reasonably to be expected of one occupying such a position?

We believe the following requisites will not be pronounced extravagant or unfounded: He should be a man of good general education, and of decided talent; he should be a thoroughly educated physician, furnished with well-digested knowledge, brought up to the most modern standards in all branches of his profession, and, in addition, to some extent at least, an expert or specialist in the most difficult and recondite branch of medical science, insanity; he should be possessed of force of character and executive ability sufficient in other departments of life to conduct, successfully, a large business, command an army, or govern a state. And for all this we propose to pay him the pitiful sum of twelve hundred dollars, and his assistants less sums, in rapidly diminishing proportions. This proposition is so utterly preposterous on its face that no one can for a moment doubt that, leaving exceptions out of sight, the general result must be that we do not secure for the medical headship of our asylums such men as they should secure. This is the result, and it is right that it should be so. Men properly qualified, and aware that in general practice, or in other walks of life, they can command success in all the forms in which it is dear to the heart of man, will not, and ought not, to immure themselves in an asylum for the bare privilege of living.

These magnificent and costly structures, of which we are so proud, and to some extent justly so, do not fulfill all their mission, nor fairly pay for the outlay involved, when they are simply *asylums*, or retreats, for this afflicted class of our fellow-men. High and holy as this mission is, they have one higher and better still. It is, that they should be great schools for the study of this dreadful and mysterious visitation of humanity, and thus give new weapons to the beneficent art of medicine with which to combat it. This the asylums of our own country have not done to any adequate extent. Great improvements have recently been made, and are constantly being made, in the pathology and philosophy of insanity, which may be hoped in time to make its cure and prevention more easy and secure. But the bulk of this work has been done abroad. The reproach that we have no medical literature has, in other departments, long been done away with; but here it is still too well deserved even yet. Who can believe that this is for want of talent and learning on this side of the water? Not we. Who can believe that the genius of Americans, which has triumphed over so many obstacles in the pathway of the healing art, and introduced so many improvements in every other department, can not penetrate the darkness of this one? Not we. No, we believe that this state of facts is largely, if not entirely, owing to the niggardly manage-

ment of our asylums in the particular we are discussing. The public always has been, and still is, systematically unjust to the physician, and were it not that humanity forbids, we should say it was only just that it should reap its reward in the shortcoming of physicians and the medical art. Insanity can not be successfully studied except in large asylums. Only here can sufficiently numerous examples be brought together to afford the necessary material for the comparison and analysis that must precede all safe and useful generalization. Insanity can not be successfully studied except by men who, having the opportunity, have also some special aptitude and preparation for the work.

The student here needs a large amount of general knowledge, and a liberal training that shall fit him to apply this knowledge to the solution of a most difficult set of problems. Mere knowledge, without mental power and training, is like a Damascus blade in the hands of a clown. He needs especially to be expert in the niceties of pathology and in the use of the microscope. Such men should be at the head of our asylums. Such men, in addition to the work they do themselves, are a wondrous power in directing and inspiring others. Such men, as a rule, we shall never have while present views and principles prevail in the management of our asylums.

The position of superintendent ought not to be a comfortable place of retirement for the disabled and worn-out members of the profession, but a field for the exercise of the best powers of our best men in the midst of their best days. To secure such men the compensation must be more commensurate with the labor and responsibility involved.

Our legislators ought to be ashamed, and we, as citizens, ought to blush at the present pitiful prices at which we strive to purchase service that can scarcely be over-paid at any price. And as long as we do it we shall reap in accordance with a law we can no more set aside than we can the force of attraction—poor pay, poor work. Further, we believe that these appointments ought to be made in an entirely different manner from that at present adopted. A board of trustees—upright, honorable men, good business men, but with no special knowledge to enable them to discriminate among a crowd of applicants—have the unfair and unpleasant duty thrust upon them of choosing simply from outside information, which, however carefully and conscientiously made use of, can never guard them against many errors in their appointment. There should be a competitive examination for these places, and those applicants who pass the best examination in general medicine and the specialty of insanity, before a competent and properly appointed examining board, should have the places. Nor do we see that there is any good reason why this examination should be confined to residents of the State.

REVIEWS.

A Practical Treatise on Diseases of the Eye. By ROBERT BRUDENELL CARTER, F. R. C. S., etc., etc. With One Hundred and Twenty-four Illustrations. Edited, with Additions and Test Types, by JOHN GREEN, M.D. Philadelphia: Henry C. Lea. 1876. pp. 505.

This volume embraces in substance the lectures given by the author at St. George's Hospital. It is not by any means an exhaustive treatise on the subject. In fact, the author disavows, in the preface, any attempt to achieve that kind of completeness which is produced by undigested compilation. Our acquaintance with the work is derived mainly from a perusal of the English edition; and some of the faults of the book, which we observed and noticed in a review of this edition, have been pointed out by the American editor.

But with all its faults (and they are, in our judgment, somewhat numerous) we prefer the original book, and are at a loss to see what it has gained by the work which Dr. Green has undertaken. In preparing the American edition, Dr. Green has corrected such typographical errors as were noticed, and such others as were not noticed. A few short passages disconnected from the immediate subject-matter have been omitted. Some of the drawings have been corrected; two substitutions have been made, and eighteen additional cuts have been introduced. The lithographed plates, also, have been reproduced as wood-cuts. The notes and additions to the text by the editor, which are included within brackets, are rather numerous. A sheet of test letters is given at the end of the volume.

This, as the editor says in his preface, is what constitutes his part of the work, which, while it has no doubt been a considerable labor, does not seem to us to have been a necessary one.

The first five chapters in the book are taken up with what may be called an introduction: I. "Anatomy and Physiology of the Eye"; II. "On the Examination of the Eye"; III. "The Ophthalmoscope and its Application"; IV. "The Principles of Ophthalmic Therapeutics"; V. "The Principles of Ophthalmic Surgery." The remaining chapters, ten in number, are devoted to the different affections of the eye. The anatomy and physiology are very briefly considered, and the anatomical descriptions are not always correct—a fact which the American editor does not fail to frequently indicate.

Thus the author says, p. 18, that "the ducts of the lachrymal gland

open upon the internal surface of the outer part of the upper lid"; the inclosure in brackets that [The ducts of the lachrymal gland open into the conjunctival sac, a very little distance in front of the fornix. Merkel, Græfe, and Sæmisch: Handbuch der Gessam. Augenheilkande, 1, 1, p. 89.]

On the same page the author says: "The globe of the eye, or eyeball proper, is composed of a protective envelope or sclerotic coat, the anterior transparent portion of which is called the cornea." But he is correctly informed by a foot-note of the editor's, that [Only the posterior non-transparent portion of the *tunica externa* is called the sclerotic, or sclera.] It would be quite impossible for us to even indicate the number of such corrections as these which are introduced, nor would it subserve any good end. It is tiresome even to notice them all in reading the text. The methods of examining the external tunics of the eye, together with functional tests, acuteness of vision, visual field, tension, etc., are treated of in a concise and interesting manner.

A decided preference for his own instrument, "perhaps from parental partiality," for measuring the visual field is admitted; and we are inclined, from the description given of it, to think that it is the most convenient instrument yet given to the profession for that purpose, but still prefer ourselves, for most purposes, an ordinary blackboard, or the simple movements of the hand in different directions, while the patient looks steadily at the eye of the surgeon. In speaking of the ophthalmoscope, Mr. Carter credits Mr. Babbage with having constructed the first ophthalmoscope as a purely optical problem; but, unfortunately, he placed it in the hands of an English ophthalmic surgeon, who did not appreciate the importance of the means of observation thus afforded, and left its introduction to Helmboltz and Græfe, four years later. Dr. Green says in a foot-note: "It does not appear that Mr. Babbage suggested any thing more than a mirror with a hole in it—a contrivance by which the pupil may be lighted up, as in Cummings's or Brücke's experiment, but which affords a view of the details of the fundus under exceptional conditions only." The theory and application of the ophthalmoscope are very simply and ably presented. Mr. C. sometime since showed his familiarity with this subject in his translation of "Zander on the Ophthalmoscope." Dr. Green has substituted, in fig. 32, a new and improved model of Loring's ophthalmoscope for the older form given by Carter, and re-written a portion of the description to accord with the changed wood-cut. He might also have added a cut of Dr. Knapp's latest model, which is altogether omitted by Carter.

Chapters IV. and V. are the most interesting and instructive in the whole book. It is a stricture commonly applied to specialists, and with a good deal of reason, that they do not sufficiently study therapeutics.

The tendency of ophthalmologists is to consider nearly all affections as of local origin; but Mr. Carter goes into the remote origin of eye diseases (we are inclined to think goes rather too far in speaking of the derangement of nervous function), and gives some excellent rules for the administration of drugs.

The chapter on "The Principles of Ophthalmic Surgery" is full of valuable hints, which are applicable to operations on the eye in general, and shows that the author has given much time and painstaking to this most important branch of surgery. He considers, first, the mechanical acts to be accomplished, and the difficulties which lie in the way of their performance; and, next, the training of the hands to their duties. If it were possible to become a good operator from reading any rules, such plain, practical directions as are here given would enable one to excel. But, as the author forcibly and truly remarks, "it is impossible to acquire manual dexterity merely by watching others, partly for the reason that the facile working of a finished operator conceals from spectators the difficulty of that which he accomplishes. His skill is like the simplicity of perfect English composition, which, as Dugald Stewart long ago said, "induces the reader to think that he also could write in a similar manner."

Mr. Carter condemns, in very strong language, the invention of many instruments by a surgeon, which, he says, "as a rule, may be accepted as sufficient proof of his clumsiness. The safest man is he who never invented an instrument in his life, but whose daily practice affords evidence that he can use those which have been invented for him by others." This is unpleasant reading for those who think the chief end of the surgeon is to modify and make instruments; but we think there is a good deal of truth in it.

We are pleased to see that ether is recommended as an anæsthetic, and that the credit of its more general introduction into England and demonstration of the proper mode of administration is accorded to Dr. B. Joy Jeffries, of Boston. We think that Mr. C. is too positive in his views of the necessity of the adminissration of an anæsthetic in eye operations. Our own views are more in accord with those of Dr. Green, "that with patients of average self-control most operations, including iredectomy and cataract extractions, may be performed as safely and as well without anæsthesia as with it. The question of the administration of an anæsthetic—and we agree with the author in preferring ether—may be decided in each case for itself, as the good judgment of the surgeon may dictate."

In the chapter on the Eyelids, when speaking of the use of sutures, Mr. C. recommends the use of very fine platinum wire, or, when this is not at hand, human hair. Dr. Green has inserted a note, in which he says very fine black silk is an entirely satisfactory material for sutures, whether in

the conjunctiva or skin of the lids; and we agree with him. The very best silk is the so-called China bead black silk, and wire or hair is superfluous. In the chapter on Conjunctival Diseases, considerable space is given to the consideration of contagiousness of trachoma and other forms of conjunctivitis in crowded institutions. The author has made the causes of outbreaks of purulent ophthalmia in several such institutions a special study, and recommends a systematic disinfection of buildings and their contents where such diseases prevail, and that particular care should be given to ventilation. Mr. Carter amazes us when he says that pterygium is scarcely at all amenable to treatment, and recommends letting it alone, unless it extends so far over the cornea as to obstruct vision, when iredectomy is to be performed. This advice we hope no one will follow. It is true that mere excision of the growth is apt to fail, but if the defect left after its removal be covered with healthy conjunctivæ, as recommended by Alt, or the transplantation operation advised by Knapp, it does not usually return. Dr. Green dissents from this opinion, and describes Alt's operation. Dr. Green has added to this chapter a classification of the ophthalmiæ, as found substantially in all the systematic works on the diseases of the eye; and we agree with him that, whatever may be our views regarding the pathological unity of the several forms of inflammation of the conjunctiva, such a classification is not the less useful and convenient. The author recommends discission, combined with suction, for all cases of cataracts in patients under thirty, except infants, and those cataracts which have undergone liquefaction. Here, again, we must disagree with him. Discission alone may be employed in soft cataracts in infants or young persons, but in adult patients we should prefer extraction. The suction instrument we look upon (as we do all instruments inserted into the eye) as very dangerous, and its use is now pretty generally abandoned. Mr. Carter condemns transverse corneal sections in the extraction of cataracts, and is a strong advocate of V. Græfe's method.

The most incomplete and unsatisfactory chapter in the book is that on the Diseases of the Fundus Oculi. In administering strychnia for atrophy of the optic nerve, Mr. C. says he is in the habit of trusting the use of the hypodermic syringe to some member of the patient's family. We should be sorry to follow his example. In regard to power of tobacco and alcohol to produce amblyopia and amaurosis, he is a disbeliever, except in so far as every malady which assails a drunkard is probably in some remote degree due to his vice. The views which are commonly entertained by practitioners are not in accord with this statement, and Dr. Green gives, in a foot-note, what are the more generally accepted opinions in this country—with which we agree.

We think extremely is too strong a qualifying adverb to use as to the rarity of choroidal sarcoma. Such is not in accord with clinical experience here or abroad, if we judge from the testimony of writers.

After enucleation, the advice to plug the orbit for a few hours is given. We have never found it necessary to resort to such measures to control hæmorrhage, which may generally be accomplished by exposing the parts to the air for a few minutes before applying the bandage. Want of time and space precludes us from referring to the remaining chapters of this book. Dr. Green has made some very considerable additions to the chapter on Refraction.

We conclude by recommending all who may be interested in this branch of surgery to read this book; but if they are of the same mind with us, they will prefer the English edition. This is said not with a desire to detract from the merit of Dr. Green's revision, for many of his additions and corrections are such as we had mentally made for ourselves while reading the book; but the frequent interpolations in brackets and the numerous foot-notes spoil the book, and we prefer to make our own corrections.

T. R. P.

The Electric Bath: Its Medical Uses, Effects, and Appliance. By GEORGE E. SCHWEIG, M.D. New York: Putnam's Sons. 1877.

This is an extremely interesting and suggestive little book. It is well and modestly written, and will, no doubt, arrest attention, and probably meet with a very varying reception from different readers. Some, who, for want of proper acquaintance with the present status of electro-therapeutics, or through want of success in their own imperfect and ill-directed efforts in this direction, have formed a prejudice against the whole subject, will turn from it with indifference. Others, who have been already convinced that much of great value has been ascertained in this department, and that much more remains to be discovered, will give it respectful attention, and, unless we are mistaken, will be well rewarded therefor.

The objection against other electro-therapeutical appliances, that they demand too much time and attention for the average practitioner, may be still more strongly urged against this. But in cities where certain persons can make it worth while to devote themselves to them, they will be more and more constantly used. We are sorry the author did not see fit to illustrate his apparatus with cuts.

Chemical and Microscopical Analysis of the Urine in Health and Disease. Designed for Physicians and Students. By GEORGE B. FOWLER, M.D., etc. Second edition. New York: Putnam's Sons. 1877.

We are glad to see a second edition of this excellent little manual. There are, to be sure, several others on the same subject, such as Flint's,

Tyson's, etc., each good in their way, each, perhaps, in some respects superior to this. But, on the whole, we like Fowler's the best. It fulfills more completely the purpose of a simple guide to the few necessary manipulations and determinations that concern us all, without redundant or extraneous matter.

The present edition adopts the metrical system and the new chemical notation, which, though harsh and strange to the mass of the older men in the profession, will be, ere long, the universal media of expression in their departments, and should be learned by every student.

It is a beautifully got-up little book, and we should like to see it in every student's hands, and on the office table of every practitioner in the land.

A Practical Treatise on Diseases of the Skin. By LOUIS A. DUHRING, M.D. Philadelphia: Lippincot & Co. 1877.

The excellent paper, and large, clear type of this book tempt one at once to read it, and once they begin, it is no task to read on, for the plain, concise way in which every thing important is stated, the simple excellence of the style, and evident mastery of the author over his subject, make the book an increasing plsasure from beginning to end. As a text-book for students, or for the ordinary physician, who only wants one book on the subject, we have never seen the work on diseases of the skin that equals this one. Treating as it does of every thing that comes within the range of dermatology, it necessarily treats some things very superficially, and omits much that is of interest, but we believe nothing important. The classification, which is essentially that of Hebra, we believe to be the best possible in the present state of the science. Dr. Duhring has shown throughout his work a thorough personal acquaintance with these diseases, an intimate knowledge of their literature, and a power of elegant condensation which places him high in the rank of medical authors, and deserves the thanks of the whole profession for the clear and attractive form in which he has presented a subject too often made difficult, and almost repulsive, to all but specialists.

Epitome of Skin Diseases, with Formulæ for Students and Practitioners. By TILBURY FOX, M.D., etc., and T. C. FOX, B.A., etc. Philadelphia: Henry C. Lea. 1876. 12 mo. pp. 120.

This belongs to a class of books which we heartily wish had never been made. To those who go to it without previous acquaintance with the subject it is likely to prove a source of confusion, if not of error.

To those who have a previous acquaintance with this branch of medicine it presents nothing but a barren, meagre, and unattractive outline. It may sell, for there are always some to be attracted by such cheap sub-

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stitutes for real study, but it conveys the absolute minimum of useful information, and is a dangerous book for the young, who will be deluded into the belief, after reading it, that they know something of skin diseases, while they have only acquired a little extra facility in giving voice to their ignorance, and run the risk of being content therewith.

The Use and Value of Arsenic in the Treatment of Diseases of the Skin. By L. DUNCAN BULKLEY, A.M., M.D. New York: D. Appleton & Co. 1876.

Dr. Bulkley is well known as an ardent and indefatigable student of Dermatology, and though somewhat over-prolific for a young writer, we have learned to look for something more or less worthy of attention from each fresh exercise of his pen.

The present brochure contains a tolerably good resumé of all that is known on the subject, without any thing particularly new or striking.

Still, we think this publication may not be without its use in directing the attention of physicians to a powerful remedy, too often, we fear, prescribed with the most reckless empiricism, simply because it is "good for skin diseases."

Dr. Bulkley concludes with a series of very prolix rules and principles, of which we fear it may be said the true are not new, and the new, if such there be, are not altogether true.

A Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra. By SAMUEL D. GROSS, M.D., etc. Third edition. Revised and edited by SAMUEL W. GROSS, A.M., M.D. Philadelphia: H. C. Lea, 1876.

Professor Gross has written many books, and all of them good ones, but, in our estimation, not one better than this treatise. And numerous as are the additions recently made to this department of surgery, we have never felt that any thing superseded this work, so long an American standard and classic. And now that we have it in a new edition, carefully revised, we feel that it can safely challenge competition with any of its successors. We have so thorough an attachment to the work in its original form that we confess to regret at parting with the introductory chapter on the anatomy of the urinary organs, and the closing one on the cause of calculous disorders; and yet we are fain to yield to the author's judgment in leaving them out, especially if the book thus lightened finds more purchasers and readers.

The department of the urinary organs is confessedly one of the most difficult in the whole range of surgery.

Nowhere else is such a constant spirit of innovation prevalent; every day almost sees some one coming forward with new views, new methods,

new instruments, or such as they think are new, though often they are but old things revived. Nowhere, therefore, has a writer more need of a wise and judicial conservatism than here, to avoid running after pretentious novelties merely because they are such, and at the same time to do justice to real improvements. And just in these qualities does Prof. Gross excel most surgical writers. Perhaps at times a little too conservative, he seems to be less faulty in that regard here than in most of his other writings.

Having long enjoyed an enviable reputation in the treatment of this class of diseases, and having had an enormous experience therein, he has seen the rise and fall of many novelties, tested the value of most new plains of treatment, and is a reliable guide for those who are just entering upon this department of practice.

The various forms of cystitis, with their results, first engage attention, and are well described, their remedies pointed out, indeed the whole subject well elaborated.

In the description of disease, Dr. Gross reminds one of the old masters in medicine. There is a fullness, and at the same time a finish, about his descriptions which show that they have been drawn with conscientious care, and each one is a picture complete in itself.

How different this is from much of the slip-shod description that is finding its way into medical books.

The chapter on tumors of the bladder may be instanced as one of singular excellence.

Of course the whole subject of stone in the bladder is thoroughly dealt with, and yet here it is that we have the greatest fault to find. In his devotion to lateral lithotomy, the author is hardly fair to other methods of operation, and lithotrity has hardly the attention paid to it that its importance demands. But, take it for all in all, we believe this book has no superior as a general treatise on the subject of the urinary organs.

Principles of Human Physiology. By WILLIAM B. CARPENTER, M.D., etc. Edited by HENRY POWERS, M.D., etc. A new American, from the Eighth Revised and Enlarged English edition. Philadelphia: H. C. Lea. 1876.

This edition of Carpenter's well known work on human physiology will give pleasure to multitudes of the friends of the work, who, having derived much pleasure as well as profit from it, would be loth to see it entirely superseded by more modern competitors for public favor. The recent development of physiology, and of its sister branches, histology, chemistry, and pathology, have been so great and so constant, that works on these subjects grow old, at least in some parts, almost before they are fairly launched upon the world. So that in a work like Carpenter's, which

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has been for many years before the profession, there has been for some time felt the want of a new edition.

The present English editor seems to have done his duty very faithfully, and though we miss sometimes the smooth continuity of narrative so charmingly characteristic of Carpenter, we must be content if we receive in its stead a more thorough array of the rapidly accumulating facts of science. What an enormous labor the editor has had to perform in incorporating into the text the isolated discoveries and observations of various authors in the different departments of physiology may be partly gathered from his preface. Such editing is, indeed, a most arduous task, and one to which but few would aspire, for the reputation gained is by no means proportionate to the labor expended.

In this case, this work has been well and faithfully done, and no mean skill has been exhibited in introducing so much that is new, and leaving the work so thoroughly Carpenter's Physiology after all.

Among other improvements, some of the new wood-cuts deserve to be spoken of with high praise; and we would especially instance figures 75, 76, 83, 84, 157, and a multitude of others.

The paper and printing are worthy the well-established reputation of the famous publishing house by which it is issued.

A Series of American Clinical Lectures. Edited by E. C. SEGUIN, M.D. Vol. II., No. XII. Peripheral Paralysis. By F. T. MILES, M.D., Professor of Anatomy, and Clinical Professor of Diseases of the Nervous System in the University of Maryland. Putnam's Sons, New York.

This is the last number of the second volume of Dr. Seguin's excellent series of Clinical Lectures.

We feel that the profession of this country are under great obligations to Dr. Seguin for having undertaken, and so far carried on, this work, by which we have had given to us, from time to time, the experience and personal views of experts and teachers, on a great variety of important subjects, and in a fresh and striking manner.

A similar series, under the editorship of Professor Volkmann, of Halle, has been very popular in Germany, and has been thought worthy of translation by the New Sydenham Society. We think the American Clinical Lectures have been quite as good as the German.

The cost of each separate lecture is but small, thirty or forty cents, and the yearly result is a handsome volume, worthy of permanent preservation, and far more useful for reference than many of our ponderous textbooks; therefore we strongly recommend the series, and hope it will meet with a constantly increasing patronage.